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Aslib Proceedings

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Aslib Proceedings is a long-standing professional journal of international repute, which has a large and wide subscriber base. The journal brings currency, authority and accessibility to the reporting of current research, issues and debates in the broad area of information work. Above all the journal wishes to provide research and comment in a form that is easily and quickly understood: a fresh, rigorous, but unfussy, writing style is what is aimed for. The needs of busy practitioners (and academics) is very much in mind. Articles are now refereed to meet the growing need for accredited and authoritative information. To ensure that this does not result in an unacceptable loss of currency, articles are speedily refereed by the journal's large, eminent and multi-disciplinary Editorial Board (assembled for just such a purpose). In exceptional cases they may be referred to an external panel of consultants. The journal's monthly publishing pattern helps in maintaining the currency of reporting. In consequence the submission of research in progress articles is encouraged.

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Prospective authors should submit articles of 2,000-6,000 words in length. Articles should be accompanied by a 100-150 word informative abstract and the numerical form of referencing should be adopted. In style and tone, submissions should fall between that of the journal's sister publications: *Managing Information* and *Journal of Documentation*. Articles should be furnished by email or on disc to David Nicholas, Editor, Aslib Proceedings, Department of Information Science, City University, Northampton Square, London EC1V 0HB. Email: nicky@is.city.ac.uk. The Editor is happy to provide advice on an informal basis to potential authors.

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Who can you trust?

Alan Rusbridger
Editor, The Guardian, 119 Farringdon Road, London EC1
Email: alan.rusbridger@guardian.co.uk

Abstract *The text of a lecture given by Alan Rusbridger, Editor of The Guardian, to mark the opening of the new facilities for the Department of Journalism at the University of Central Lancashire, Preston. The theme of the lecture is public trust in what journalists write. Argues that, despite the public's lack of trust in newspapers, they do in fact uncover many truths that business, industry and Government are attempting to conceal. Examples are provided from the energy industry, science and the environment, transport, Home Office and food safety. Describes the important role The Guardian's Readers' Editor has had in increasing public trust in the newspaper.*

Introduction

The theme I want to talk about tonight is one not often talked about in connection with newspapers. We talk a lot about libel, about privacy, about harassment, long lens photography, ownership, political alignment, contempt, freedom of information, upmarket, down market, dumbing down, dumbing up, but not a lot about trust. We measure our success in circulation figures, or, if we are lucky, profits. Every month's ABC figures are picked over by a rash of commentators to judge who's up and who's down and which editor is next for the long walk back to the dressing room.

The one thing we never seem to worry about is whether the people who buy our papers believe a word we write. Or, so long as they keep on buying them, whether it even matters. But on any measurement it cannot have escaped our attention that the moment you stop and ask such questions about journalism and trust you get some very uncomfortable answers.

To make the point let me show you a table:

The first row of the table refers to the percentage of the public saying that the police can be trusted always, or most of the time, not to bend the rules in trying to get a conviction; the figure remains fairly steady at around 50% over the ten year period surveyed. The next row concerns judges: can they be trusted to stand up to a government which wishes them to reach a particular verdict: there is only one year to go on: but public reaction is about the same at around 50%. Local councillors next: can they be trusted to place the needs of their area above the needs of their party? Roughly 30% of the public believe they can. What of civil servants? Can they be trusted to stand firm against a minister who wanted them to provide false information to Parliament? Not many believe so – just 28%, and the proportion has declined over the years. Next MPs: can they be trusted to tell the truth in a tight corner? Only a steady – and dismal – 9% of the public think so. Finally, what of journalists? The actual question posed was, 'how much do you trust British journalists on national newspapers to pursue the truth about getting a good story?'

To what extent do you believe that:	1987	1991	1994	1996
Police do not bend the rules	52	49	47	51
Judges stand up to Government	n/a	n/a	n/a	48
Councillors serve voters	31	25	31	28
Civil servants stand firm	46	n/a	27	28
MPs tell the truth in a tight corner	n/a	n/a	9	9
Journalists tell the truth	16	14	15	n/a

Source: British Social Attitudes[1]

The proportion of the public that had an unqualified trust persistently lingers around 15%. Also dismal. Those answering 'only some of the time' or 'almost never' add up to more than 81%!

The figures apply to both tabloid and broadsheet journalists. But we cannot take much comfort from that because the figure for trusting broadsheet journalists alone is not much more than 19%. So journalists and our newspapers, however serious and honest we believe ourselves to be, are, bluntly, not trusted by our readers.

Trust – does it matter?

Are those shocking figures? Can this ill-regarded, mistrusted profession really be the most popular choice of all graduates leaving University? Are any of you in this room who want to make a career in journalism worried by these figures? Or is it an inevitable part of the territory that journalists are not there to be trusted, never were, never will be and mine's another large Bells. I suspect that many journalists on national newspapers would go for the latter view. They would say that they never went into journalism to be popular or make friends. They would say that the business of getting at the truth is sometimes a grubby business, but that you are frequently up against grubby opposition. They would join Jeremy Paxman in quoting H. L. Mencken: 'the proper relationship between journalist and politician is that between a dog and a lamppost'[2]. They would say there was some honour in being distrusted. So they would look at that figure of 15% and shrug. Look at politicians: 9%. We are almost twice as honest!

I also suspect that journalists on local and regional papers would be rather horrified by the figure. I think it is true to say that my colleagues who do not work in London place rather higher stock on trust than do my colleagues on national papers. Anyone who has worked as a reporter in local papers never forgets the experience. Mine was partly spent working in district offices where the newsroom was two desks, a telex machine and a bottle of whisky above the fish shop in the Town Square. You were writing about the people you met the next day in the bakers or in the pub or in the council chamber. That did not mean you pulled your punches or suppressed stories that should be written. It did mean that you did your best to spell the names correctly and get the facts right.

I also remember the sensation of moving to a national paper and writing about people I had never met and would never meet and how that did, inevitably, in subtle ways, affect the way in which you tackled subjects and expressed yourself. I think that must be doubly true now for journalists who work in compartmentalised ghettos – say, tower blocks in Docklands – and who have to make a 45 minute train or taxi journey if they want to meet a human being let alone a contact or a reader.

That difference between being rooted in a local community and being at one or two removes must, in turn, be just as true for owners of papers. If you live in Los Angeles or New York, Sydney, or Ottawa or Dublin or Paris, and never bump into the people your journalists are writing about, as it were, in the bakers or even in the corridors of Whitehall, how can you truly monitor the subtle relationship between paper and community? If you are a Murdoch, a Black or an O'Reilly you are mainly concerned with circulation, revenue, earnings per share etc. If you are a Murdoch you are also concerned with making sure your papers are close enough to those in power so as not to jeopardise your other commercial ambitions. But, by and large, you are not over concerned with other aspects of your papers' place in the community.

Well, none of that is going to change. And it's possible that the British public will go on reading newspapers in huge quantities and never get round to respecting the people who produce them. But I think if I were a press baron I would care about whether or not my papers were trusted. Because I think that the whole issue of trust will become more, not less, important and also that it will have commercial implications for everyone working in the media. We have already moved a huge way in a very short time. Gone are the days when *The Times* was a paper of record which advertised itself as the paper to be read by, what it charmingly called, 'Top People'. Gone are the days when television documentaries happened once a week and were called *Panorama*, or just possibly, *World in Action*. Gone are the days when the nation's sole source of radio news was something called the Home Service.

Today, famously, almost platitudinously, we are on the brink of an age when we will have 200 television channels from which to choose. There will be numerous suppliers of news and documentaries. As the technology becomes more advanced, so it will be easier for anyone with a £500 digital camera from Dixons to call themselves a producer or documentary maker. Look at how Carlton TV was fooled by a man who came back from Colombia with footage of what he said was a heroin-smuggling operation when really it was lots of bits of video stitched together, and involving mints, not drugs. There is today not one radio station, but hundreds. And, most dramatically of all, there is the Internet, a limitless ocean of sources, accurate and inaccurate, responsible and mad; beneficial, enlightening and dangerous; democratising and anarchic. From one or two bulletins a day we are about to be hit by constant news, 24 hours a day, 365 days a year. What was once a controlled, in many ways elitist, operation will become – has become – much more dispersed and democratic. In many respects, a free for all.

This world, when it fully arrives, will be exhilarating, for a while, exhausting and, most of all, confusing. American experience suggests that most people settle down to use, not 200 channels, but eight or nine. Faced with a barrage of information the natural instinct will be to gravitate to the titles, channels and names you recognise. Welcome to the world of media branding. But it is not just a matter of recognition, it is a matter of trust. In this new cacophony of voices, and with limited time, which voice will you trust to tell you the truth? What expectation should you have of information being reliable? Does it matter that *The Mirror*'s front page this morning tells us that Gazza drank the following during a three day binge: 16 vodkas, mixed Red Bull and 4 pints of Guinness. Whereas *The Sun's* front page assured us that, in fact, he drank 20 bottles of Hooch (alcoholic lemonade), 40 measures of Archers peach schnapps, 12 cocktails made of Pernod, Baileys, Tequila, Galliano and Sambrica. As editors, what expectation do we have of the information we print being reliable? Of course, we aim for 100%, but what do we actually achieve? That is something I want to return to later.

Public scepticism

The example of Matt Drudge, the nerd with an Internet terminal, is instructive here. By his own admission, he believes he achieves a reliability rate of 80%, i.e. only 80% of what he puts up on his web site is true. Yet that admission does not seem to put off potential readers, or browsers or visitors, or whatever you are when you drop in on a particular online address. His site is one of the most popular sites on the whole of the Internet with six million hits a month. At the height of the Lewinksy saga a million people a day were visiting the site: 3,000 of them were traced to computers within the White House! The success of Matt Drudge can only be explained by an admission that the general public is an increasingly sceptical public. All polls and surveys show a decline in trust in institutions such as the law, the professions, the police, trade unions, charities, the City and, the one profession lower than journalism, politics. And they are extremely sceptical about the conventional media's presentation of the world.

One can speculate as to the causes of this scepticism. Part of it is due to deregulation or poor regulation or the withdrawal of government from areas it used to be openly accountable for. Part of it is due to real, revealed scandals. The great miscarriage of justice cases. The epidemic of sleaze in politics. The BCCI affair, Maxwell and pension funds, Lloyds and, currently, the revelation of a form of institutional gambling called hedge funds in which smart young men daily bet billions of pounds on things which, if they had four legs and proposed to run at Newmarket, would be carted off for dog meat. Part of it is also due to a vague feeling that no one is really giving us the whole truth, or is capable of giving us the whole truth. Politicians obviously cannot give us the whole truth because we live in an age when to speak openly and frankly on many issues can lead to terrible consequences. The whips move in and threaten. You are quietly briefed against it. Speak out of line too much and you find yourself deselected. Look at what both main parties have done to MEPs who step out of line. Look at the parallel and reflecting efforts by both Labour and Tories to prevent candidates from standing for the Mayor of London. Look at how Labour is controlling from London the candidates standing for a Scottish Assembly.

Spin-doctors now have extraordinary powers to govern the way in which politics are publicly discussed. We are living in an era of pager politics when the business of spin is often too important even to be left to the existing Government information officers, who are quietly being replaced by Labour loyalists. But the problem of control of information goes far beyond Westminster politics. Twenty years ago journalists used to rail against the contempt laws, the official secrecy laws, the libel laws, the lack of freedom of information laws – and, of course, most of those ailments are still with us: we all need to keep a particularly watchful eye on the fate of freedom of information. But the new controls on the press, through spin, PR, the control of stories, favours – the withdrawal of favours and stories – are much more subtle and, potentially, more insidious.

There are now 1,028 information officers in Whitehall, which is an arresting figure in itself. But a phone call to the Institute of Public Relations (IPR) elicited the statistic that the total number of people currently engaged in PR in this country is no less than 48,000: it is the third most popular profession for graduates after journalism and teaching. Compare that figure of 48,000 with, say, the 15,000 miners left working in this country today. The IPR also quote research showing that the majority of the top 50 UK companies will increase their PR budgets by around 50% over the next few years. Now, of course, there is nothing wrong with public relations. Some of my best friends, as they say, are PRs. But, equally, no one would suggest that the job of a PR is to give the unvarnished truth. They are in the business of enhancing the truth, presenting the truth in the best possible light. There are, I know, some distinguished practitioners in the audience, and students aspiring to be PRs.

How much of this PR offensive is effective is impossible to say. One's hunch is that there is now a generation of people who behave much as bacteria do when faced with a new and powerful antibiotic. They are developing their own immune systems. They are becoming PR-resistant. This generation, referred to in shorthand form as 'post-modern', can interpret (or in post-modern shorthand, 'deconstruct') any given message or medium. They can read *Hello* magazine with the appropriate degree of ironic detachment. They can read any issue of *The Sun* or watch The Simpsons on any number of levels. The market in paparazzi pictures is a direct by-product of this scepticism that the over-cosmeticised world of PR and media creates. We've seen Joan Collins's latest look, but we know that's not reality, or not the only reality. So we will happily devour the snatched picture of her at the supermarket looking like a wizened old granny. But we don't want just that paparazzo image: we can cope with, and assimilate, both images. We want to be able to choose for ourselves which reality to believe. We now know – Prince Andrew has recently come close to admitting it officially – that for years the official PR version of the assorted royal marriages was a fake. That must partly explain why there was a lucrative market in paparazzi pictures of royal personages rowing, sulking, crying, toe-sucking and clinching. We both believed, and didn't believe, the fairy tale created not only by PRs, but by journalists themselves. We wanted the raw information for ourselves and we would form our own judgements.

The press as guardians of the truth

So we have a public which is simultaneously more sceptical and more sophisticated than ever. But it seems to me that the press has been slow to appreciate the implications of this democratisation of information. Andrew Marr wrote in his recent book *Ruling Britannia*:

> 'In the old days a part of the government's authority came from its special knowledge, its private and important sources of information, which may be hinted at, and used to subdue scepticism. Today, a serious newspaper often knows as much about the world

from its correspondents and wire services, its academic contributors and its friends in the think-tanks, as the Foreign Office does.'[3]

This is true, though a serious newspaper's ability to provide a stream of information which is consistently revelatory and reliable goes far beyond the bounds of the Foreign Office. There is a consistent pattern over recent years of the press doing an outstanding job in keeping the public better informed about a huge range of issues than they would ever have been if they had relied on official sources alone.

Let me give some examples:

- **Energy**
  The nuclear industry. It was the press, not the government, who exposed the safety issues behind leaks of radioactive material and the problems associated with disposing of radioactive material. Right from the moment that the people of Cumbria were told that nuclear power would 'produce energy too cheap to meter' the press has played a leading role in monitoring an industry even more beset by official secrecy than most. We were told throughout the 1970s and 1980s that no plutonium from the civil programme has ever been used for military purposes: not true. We were told that nuclear energy would be cheaper than coal or gas. The fact is it turned out to be at least double the cost. The recent disclosures of the appalling safety record at Dounreay, now officially acknowledged, is an example of how newspapers have, by careful incremental reporting, got things right, and official denials have been exposed as frequently nothing more than an institutionalised covering-up.

- **Science and the environment**
  It has been the press, not the government, business, or even scientists themselves, which has shone a spotlight on such areas as the patenting of genes, genetically modified pesticides, irradiated food, cloned sheep, gene therapy, global warming, the millennium bug, and designer babies. *The Guardian*, to blow just a couple of notes on my own trumpet, has played a key role in explaining and alerting the public to genetically modified food. Devoting ten pages in five days to the subject at the beginning of the year, at a time when regulatory authorities all over Europe were about to give the green light without any form of open public debate. In response to this series we were treated to a visit from three leading American executives from the main firm involved, Monsanto, and I remember their incomprehension as they struggled to overcome our scepticism about their assurances that the technology was beneficial and safe. I tried to explain that if they had lived in this country for the past 20 years through Sellafield, Dounreay, salmonella in eggs and BSE in cows, they might understand that it was no longer enough to put up a man in a white coat to pronounce something was safe.

  Did you notice, incidentally, how even the word 'safe' has acquired a new Whitehall meaning in the mouth of Sir Kenneth Calman who for years, as Chief Medical Officer, assured us that eating beef was 'safe'. We learned yesterday that this did not mean that eating beef would not kill you. If you look at 'safe' in ordinary speech we do not mean that a driver we describe as 'safe' will never have an accident. So beef is safe, but you might one day have an accident with a burger and end up dead.

- **Transport**
  Rail safety. Railtrack keep saying that Britain has the safest rail system in the world, when all the evidence, from the people who operate it and use it, shows that it is not. The saga of the Channel Tunnel rail link and the collapse of the London and Continental Railways. The media told the real story while the Government and Eurotunnel scrabbled around with denials before finally admitting the truth.

- **Home Office**
  During the last Government there was more than a suspicion that a whole series of official research reports – on crime, punishment, drugs, refugees – were suppressed because they did not fit with government policy. More than a suspicion, because it was the press which generally published

leaked versions of them. More generally, did anyone feel they honestly knew the truth about the endless Labour/Tory battles over the ground of official statistics during the last Government? Has crime really gone down? Is health spending really going up? Are waiting lists up or down? Are exams becoming easier? Are educational standards going up or down? Does prison work? The scepticism with which today's crime figures were greeted was symptomatic of the problem. Crime may well have gone down under the regime instigated by Michael Howard. But Michael Howard's way with statistics and research was so mistrusted in itself that no-one is now willing to take figures on crime at their face value. They want an intermediary to subject them to scrutiny and analysis. That intermediary is, or could be, or should be, journalists.

- **The courts**
  For years it was the press, not any official appeals system, which exposed miscarriages of justice. The press which exposed corrupt policemen. The press which acted on behalf of the victims of crime who felt they had been let down by the system: look only at the *Daily Mail's* brave stand on behalf of Stephen Lawrence's family.

- **Food safety**
  I just want to come back to BSE, because the official inquiry that is now running is turning up a rich trove of evidence about the way in which the press were onto the link between BSE and new variant CJD in humans long before the Government was prepared to admit it – and the lengths to which Government tried to suppress the work of the few independent scientists and journalists who challenged the official wall of silence. In early 1994 *The People* and *Today* newspapers published articles suggesting a link between BSE and the death of a teenage girl from CJD. Whitehall generated vast amounts of paper as civil servants and ministers wondered how best to chide the papers for their irresponsibility.

This is the sort of stuff you would normally have to wait 30 years to read, but now we can learn of the prolonged back-stage wranglings to ensure that Richard Stott, Editor of *Today*, was properly told off by Nicholas Soames:

> 'The article and editorial comment seem to be designed to heighten public anxiety by linking this case with eating beef and thus suggesting that there is a link between CJD and BSE. This is totally unjustifiable.'

While Baroness Cumberledge wrote to the *People* to tell that paper off for making a 'spurious connection between meat eating and CJD'. As we know now, the newspapers were right and the Government was wrong. You would have been better informed reading Richard Stott's newspaper, and James Erlichman in *The Guardian*, than listening to Nicholas Soames, Baroness Cumberledge, John Gummer, Douglas Hogg or any of the other hapless ministers who struggled to maintain a vice like grip on the secrecy surrounding the whole subject.

Now, put all those areas together and try to imagine any official agency which had a record like that: a kind of independent Ombudsman scrutinising all areas of official life and making its findings known. A sort of combination of Judge Tumim and Scully and Mulder who freed men wrongly convicted, named corrupt policemen, unearthed environmental scandals, prevented Government waste, exposed Government deceptions, revealed disturbing and secret scientific research, disclosed radiation leaks, campaigned for justice for the victims of crime. In a short time the Ombudsman and his or her agency would be a people's hero, hailed, respected, trusted.

So why is it that the press does all that and still scores a lousy 15%. Unhailed, unloved, unrespected, untrusted? Well, we all know some of the reasons. Competition. Dumbing down. Sensationalism. Politics. The battle for readers. The battle for advertisers. One careless wrong story, like *The Express* splash claiming every surgical instrument in the country would have to be melted down because of CJD, can undermine faith in the ability of newspapers to report truthfully on the same subject for months afterwards. Sources do not trust papers any more than the readers. Information dries up. But I still think 15% is not good enough: that we could, and should, aim higher without abandoning our treasured outsider status and our role as irritant and piece of grit in the system.

An honest press and the role of the Readers' Editor

I want to suggest one measure for building trust which we have tried at *The Guardian* and which I think should be compulsory in every newspaper in the country. It is this: admit our mistakes. The notion that newspapers make mistakes seems a hard one to admit. There is a delightful passage in the play *Pravda* by David Hare and Howard Brenton in which a woman shopkeeper humbly asks the local newspaper to put in a correction for a mistake which is threatening to put her out of business. The reporter looks at her with distaste and launches into this speech:

> 'Look, I'll be frank. It isn't very easy. You will find on most newspapers a policy, you see. *The Bystander* doesn't publish corrections. Because we don't like them. I'll be honest. They don't look good on the page. If every time we got something wrong, we published a correction then a newspaper would just be a footnote to yesterday's newspaper and yesterday's a footnote to the day before's. Look, a newspaper isn't just a scrap of paper, it's something people feel they have to trust. And if they can't trust it, why should they read it? A thing is either true or it isn't. So, by definition, what is printed must be true, otherwise why print it? And if we apologise and correct, how can readers know what is true and what is not?'

Which is not as far removed from reality as you might think.

Why this reluctance to pretend that newspapers are infallible? That an admission of error will undermine confidence in the paper? It would be difficult to imagine a process more designed to create errors than the conditions in which a newspaper is published. Hard-pressed men and women working under great pressure of time to process hundreds of thousands of words and pictures a day. 48,000 press officers trying to throw them off the scent. A whole industry of spin: an entire culture of concealment and secrecy. It is a wonder we get anything right. But still 99% of papers persist in the fiction that they get everything right. Given all the things I have been talking about, an increasingly sceptical and sophisticated public with an ever-expanding access to sources and a desire to be allowed to make up their own minds, I cannot off hand think of anything more designed to undermine trust in newspapers.

Of course, we know the reasons. It is partly the fear of being sued, in which, like a car crash, it's often madness to admit you're in the wrong. It is partly the natural fear in all walks of life of admitting error. You try hard never to correct then correcting becomes a big deal. Where will the correction go? What will the editor think? I have always thought this was barmy, ever since reading the wise, but at the time controversial, words of David Broder, of *The Washington Post*, when he won the Pulitzer Prize in 1979. I cannot think of a better description of what a newspaper is:

> 'Instead of, as in *The New York Times* slogan, promising 'All the News that's fit to print', I would like to see us say, over and over until the point has been made, that the newspaper that drops on your doorstep is a partial, hasty, incomplete, inevitably somewhat flawed and inaccurate rendering of some of the things we have heard about in the past 24 hours, distorted, despite our best efforts to eliminate gross bias, by the very process of compression that makes it possible for you to lift it from the doorstep and read it in about an hour. If we labelled the product accurately, then we could immediately add: but it's the best we could do under the circumstances, and we will be back tomorrow with a corrected and updated version.'

Broder added:

> 'If we did that, I suspect, not only would we feel less inhibited about correcting and updating our own stories, we might even encourage the readers to contribute their own information and understanding to the process. We

> might even find ourselves acknowledging something most of us find hard to accept: that they have something to tell us, as well as hear from us.'

That process of listening to the readers as well as informing them is, of course, central to most of the new technologies, which will all be interactive. The age of the newspaper as a tablet of stone may well be over.

So a year ago on *The Guardian* I appointed the first Readers' Editor in this country. His terms of reference were clear. His primary relationship was with the readers, not the staff or the editor. He advertises himself every day in the paper and is open for business between 9.30 and 5.30, Monday to Friday. He has a reserved space every day to print as many corrections or clarifications as he wants. I cannot interfere with his judgements. I cannot even sack him: only the Scott Trust can do that. Every week he also has a column of his own to raise concerns raised with him by the readers. Again, there is a strict rule: the editor cannot interfere.

I think all the editorial staff on *The Guardian* would agree with my judgement that this has been the single most liberating thing to have happened to us in recent years. Reporters or desk editors who have made mistakes go and make a clean breast of it straightaway. My own life is greatly improved: I read the column and occasionally rap knuckles or investigate the failures of the systems which should be there to prevent errors. But I am utterly happy not to have to deal with the anger, irritation and attrition involved in conducting daily post-mortems in the defensive spirit of seeing if we can get away with not putting a correction in. I cannot urge my fellow editors strongly enough to give it a go.

Our Readers' Editor, Ian Mayes, has been in the business for 40 years and has become a confessor figure to younger reporters as well as having a puckish relationship with the readers, having developed his own teasing style of corrections, and it's probably fair to say that Ian has already earned his keep in money saved on negotiating apologies with lawyers charging £300 an hour. There was obviously a fear when we started out that, if we were the only paper to own up to our errors, *The Guardian*, having just shaken off its Grauniad moniker, would once more become famous for its mistakes. I think the reverse is true. The corrections and clarifications column has become one of the most popular features with readers. They respect our willingness to own up: and they say they are more inclined to trust what they read in the future.

Ian marked his first anniversary in the job by publishing his thousandth correction. 1,000 mistakes in a year sounds like a newspaper in real trouble. Actually, I think it shows a confident newspaper and an honest one. It is more likely to be the case that an editor who refuses to carry corrections is running a dishonest newspaper. I do not think our reporters and editors are any more prone to make mistakes than any other. Quite the reverse. But of course, we have nothing to compare ourselves with because no other newspaper has had the boldness to try it. I am willing to hire him out to editors curious to know just how many undetected errors they are guilty of in any given month.

The most important thing about this new column is that the readers want it. It does make them feel involved in their newspaper. It does make them feel that they can play a small part in keeping it on the straight and narrow; that it is in some small way accountable. And because it is independently accountable, they can trust it just that bit more. I do not honestly expect every editor to appoint a readers' editor tomorrow. Nor do I honestly believe that that is the magic answer to solving the acute lack of trust in the press which evidently exists today. But I am convinced that trust matters. You who are on the brink of a career in journalism will be less cynical about these things than people who have had some of the sheen knocked off them. You should care about trust and being honest with your future readers.

Conclusion

The digital age is truly exciting. I do believe that the Internet is a revolution in communications to rival Caxton and Baird. But, ultimately, when stripped of all the silicon hype, we are just talking about the communication of information. And, ultimately, all that matters is the simple question: is it true? Can I trust this source? If you can be trusted you will win in the end. If you cannot you will be no better than any other cracked voice shouting for attention. When you walk through the gateway of your sister school of journalism in Colombia, you pass under an inscription by Joseph Pulitzer that reads, 'a cynical, mercenary demagogic press will produce in time a people as base as itself'. There has always seemed to me to be little point in being a journalist – or in wanting to be a journalist – unless you believe that the opposite is also true.

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Dumbing down: the only way is up

Robin Hunt
Creative Director, arehaus Publishing and New Media Consultancy, Universal House, 251 Tottenham Court Road, London W1P 0AB
Email: Robin@arehaus.com

Dumbing down: three quotes

BBC Online

'Dumbing down' in children's television will be among issues tackled by broadcasters and politicians from around the world at the start of a week-long global summit that begins on Monday.... Anna Home, who chairs the summit, said: 'The Teletubbies will almost certainly figure in the debate... Children's television is a highly competitive area, certainly in this country, and in terms of the proliferation of new channels.'[1]

Kirkus Reviews

'Ever since [the American literary academic] Allan Bloom unexpectedly hit the bestseller lists in 1988 with his denunciation of cultural and intellectual standards in the US, publishers have cheerfully cultivated his theme. Bad news is good business, and the news in Dumbing Down is pretty bad: American religion has degenerated into kitsch; malls have helped erode our democratic concept of public space; museums have trivialized history and science; computers are destroying literacy; bad science is dumbing down good science; the quality of our language is sinking to an all time low. Even *The New Yorker* has been watered down to seem more like *People*. By now such news is not exactly news. Nevertheless, as dubious as this genre is becoming, it must be noted that Washburn and Thornton (she is a freelance writer and editor, he is a literary agent) have assembled an outstanding collection of essays on contemporary American life... novelist David Slavitt's recollection of his job at a major news magazine is typical: "When I was at *Newsweek*, it wasn't a magazine that most of the people who worked there would have read voluntarily. I mean, when they taught me that I was supposed to write 'Plato, the Greek philosopher once said...,' it wasn't a joke. The identifying appositive had to be there. (I always tried to imagine someone out there slapping his forehead and thinking, Oh, yeah, right, that Plato.)"[2]

An interview between Ron Hoag of Amazon.com and Pete Hamill, Doyen of US journalists on the publication of his News is a Verb, a book which attempts to unmask the dumbing down of US journalism.[3]

Hamill: 'I've spent my whole life in tabloids. But I'm not particularly a fan of the kind of values now associated with tabloids... The supermarket tabloids (*The Star, The Enquirer*, etc.) are essentially in the entertainment business, not the information or knowledge business. They're there to divert and entertain their readers. They only have a couple of basic subjects: 'Roswell'; 'How to Lose 19 Pounds in Four Days'; and 'Celebs in Trouble', which has been borrowed increasingly by the mainstream press. The great recent example is the [Monica] Lewinsky affair, in which the President of the United States was covered as a celebrity. Just another big name, just another guy in trouble, no different from Hugh Grant or Marv Albert or Frank Gifford or any number of people who have gotten themselves in jams.'

Hoag: 'This was also a blatant case of newspaper journalism dropping the ball in one of its major missions in opposition to TV journalism.'

Hamill: 'In this age of information overload, in the age of the 24-hour news cycles and CNN and NBC, the age of the Internet, the age of the Drudge Report, and the age of talk shows that feed on those kinds of primary information sources, the newspaper has to be the medium that verifies. It has to be the medium that says to the reader in the morning after they've been blitzed out on too much information, "This is confirmed and factual.

This is, so far as we can tell, true." On breaking news, we have to be content to be second, third or last, but we have to be right.'

Dumbing down: the analysis

However we define the modern – from the origins of the industrial revolution, from the establishment of a widely read print media, from the invention and mass adoption of radio, or television – there is little doubt that:

> 'Modernity... has brought enormous and increasing changes in the tensions between the immediacy of the here and now, our physical location in space and time, and the sorts of experiences, actions, events, and whole worlds in which we can partake at a distance.'[4]

Let us take as a beginning this seemingly innocent quote, with regard to modernity and our points of access to news information – or entertainment, as journalist, Pete Hamill, with his 30 years of experience, would have it – to examine these tensions. Tensions for the object of that news, its consumer; and for the subject of that news, its content.

We, the consumers, have been changed by the speed, locations and imperatives of modernity, with its irrefutable law of ever-forward, ever-*now*. In the case of news we are 'tensed up' by the amount, range, diversity, and unreliability of information now available, just as culturally we are similarly confused by the seasonal badge-branded possibilities of all-pervasive consumerism. At the same time, though, we have learned to need to know everything *now* – real-time, wherever we are. We do not need to read a newspaper, or listen to the radio to be bombarded with news and be responsive to it: it is palpably with us through our dominant medium, television (with its regular set-pieces, such as a Six, or Nine o'clock News, its Sixty Minutes or Walter Cronkite; and its young pretenders, the 24 news channels, such as Sky News, BBC World, or CNN available throughout the world).

As we wake and as we fall to sleep news is all around us – whether we are interested or not. Organisations as diverse as the National Westminster Bank[i], Orange telecom and Teletext are now 'providing' news: via pagers, mobile phones, the non-moving parts of television, and, in the future, our ATMs whilst we wait for our out dated and replaceable bank notes. If we holiday to Thailand or Provence we can probably find British news on cable television or via overseas printing these days; if we have a laptop computer and a GSM phone we can follow every moment of the FA Cup Final whilst circumnavigating the North Pole. Indeed, such is the proliferation of information available if we are interested, that in our adventures in information we are made very aware that we cannot any longer ever 'know' the news as once we perceived we could. This is because we now know that the news is infinite. Thus has it always been, except that we did not until recently have the means to investigate – to test – the immensity of news' possibility. Now we do.

And so we, unconsciously or not, dumb down, we make tabloid-style choices: we choose sensational headlines over re-rehearsals of Virgil. We follow 'water cooler stories' (the US term for hyped-up news such as 'Monica Lewinsky', or 'Louise Woodward', or 'David Beckham' that we need to have an opinion about over coffee breaks). Or we read only football reports, or features about having children, or divorce (or about people – sometimes famous – who have some special angle on such stories) known these days as 'news you can use'. Or we follow merely solipsistic news from Afghanistan or Rio, or New Jersey just because we are *interested in the subject*. We cannot help this limitation control: just as once a broad brushwork newspaper (alone) and an education helped us to define our individual social voice; so now our cherry-picking of information from many sources to suit our lifestyle helps us to remain sane. Sane, because in one paranoid sense just as we watch and read the news so too it is watching us. To use an analogy from literary theory, our choice of reading or viewing (our choice of 'gaze') of one story or item:

> 'marks the point in the object [in this case the news story] from which the subject viewing it is already *gazed at*, i.e., it is the object that is gazing at me... the gaze functions thus as a stain, a spot in the picture disturbing its transparent visibility [in Reithian or old Fleet Street

> terms its moral reliability and educative import] and introducing an irreducible split in my relation to the picture [or text]: I can never see the picture at the point from which it is gazing at me, i.e. the eye and the gaze are constitutively asymmetrical [we, as consumers, are always at some ironic angle to the 'truth' of any news item now, we know why we are watching or reading, as well as that we *are watching or reading*]. The gaze as object is a stain preventing me from looking at the picture at a safe, 'objective' distance, from enframing it as something that is at my grasping view's disposal.'[5]

That is the position of an abstract, Lacanian influenced, literary theorist, but despite Zizek's difficult and vague language (literary theory needs less of an assault by the dumbing down brigade and more an attack from some *Sun* newspaper sub-editors) it is a useful way of approaching just how we feel about news these days. We are no longer innocent, so as Umberto Eco writes of the impossibility of saying 'I love you' only of saying 'as Barbara Cartland would say, 'I love you'" so we cannot watch the news or read a newspaper without being aware of Zizek's 'stain'. We all know news is a construct. We know, unconsciously, of the news (or rather its makers) watching us stopwatch or ruler in hand trying to make us like them more. To boost their ratings to make them *exist* – to continue to exist – in the free market for audiences.

To give some examples: we *know* that the media has recently been introducing personality into stories to appeal. We know even if we didn't perceive it because newspapers have told us:

> 'The emotional outpouring that followed the death of Diana, Princess of Wales was fed by the demands of round the clock news, Kate Adie, the BBC reporter, told a television festival in Edinburgh. Reporters were being asked to show their feelings rather than report in the traditional way.'[6]

We also know merely by viewing. Following the hideous bombing in Omagh by the Real IRA the journalist Dermot Monighan of ITN recently gave us a five minute News at Ten package 'I was born in Omagh story', his connection to the story *was* the story. We also know when we are being dumbed down to. Recently a trailer in *The Guardian* asked, 'Is [the film] *Lock, Stock and Two Smoking Barrels* the best British crime film ever?' Forgetting hyperbole for a moment the question was ridiculous – unless you were under 25 and had never seen any British movies – as ridiculous or not as believing that Omagh would be made more meaningful as news by being the birthplace of the reporter covering the story. 'It's knowing journalism, for God's sake,' an editor on a rival told the author as he recited the litany of better British crime films. 'You read it, didn't you?' Of course. Because we know it is knowing and still we read, still we watch Dermot transfixed.

The whole farce of the BBC's review of its news presenters, and the alleged demotion of those deemed 'unsexy' is precisely about the gaze back, about the wild competition for our time – or even attention – which is now endemic in all forms of media, of how the right face, the right message, can grip us *somehow*, can look back and transcend the story of the news. We are living, and journalists and editors are creating, in a world of extraordinary proliferation, not just of news but of focus groups and analysts attempting to understand why we respond to news. Dumbing down, whatever it means, has not caused the antitheses of news, the 'Me' journalism, those winsome or moving accounts of journalist's lives, nor the sudden inability to have a cultural context longer than three months as is the case in *The Guardian's* question about *Lock, Stock and Two Smoking Barrels*, it is the market, the research companies – and the self-regarding, the dumbed down, aware, *we* – that have.

Historically, the role of audience research organisations such as BARB or ABC, or the NRS was to provide feedback numbers, pages read, minutes watched, largely for commercial reasons – the better the numbers the higher the advertising revenues. The techniques were arbitrary, the samples small, the pact between the parties cosy as both media and the advertisers had a simple currency with which to barter. But that was in an old world of ten national newspapers and three television channels. Today, technology has both enabled a myriad of newspapers, magazines, television channels and Internet sites, and has made the process of audience measurement frighteningly acute, with ratings every minute part of the process of any large broadcasting network.

Newspapers are luckier, their processes of self-analysis (other than Garrick Club chit-chat, *bien sur*) are somewhat moribund... except that the Internet (on which most leading newspapers now choose to publish in an attempt to gaze back at a new, a younger audience) is now here, with its back-end computers compiling giga-bytes of (often depressing) data about online readership, or the lack of it.

Nicholas Negroponte, the head of the MIT Media Lab, wrote in *Wired* in 1995 of a future journalistic world in which writers were paid not by their name or reputation, but by how often their articles were downloaded[7]. This is currently unimaginable for most working journalists whose attitude is not to stare back, but to declaim, or accuse... and wait for the letters page a week later. But their bosses, the marketing men, the bean-counters, they are waiting. It is obvious. Right now, however, the individual writer is still subsumed by the authorial 'voice' of particular media. We know this. Of course, we are not taken in, in one sense, by a newspaper world in which the take-over of Manchester United Football Club by Rupert Murdoch can be vilified in *The Daily Mirror*, *Daily Mail*, *The Guardian*, *The Telegraph* and *The Express*, and lauded beyond dreams of Mammon by *The Sun*, *The Times* and *News of the World*. This is media which doesn't look back, which is playing an old fashioned game. Media reflecting, in fact, its broader agenda as players in – not viewers of – the world in which it reports.

And yet in another sense we are taken in completely: we want to know how some stories will run because they are covered everywhere – they are 'water coolers' where each 'brand' of news source looks for its angle. Similarly, we are not taken in by Page Three Girls, nor the Broadsheets' equivalencies (there was a time when *The Daily Telegraph* appeared to have a daily photo story about Elizabeth Hurley) but we *do* knowingly gaze. We do gaze even if we have heard of Plato, Homer Simpson and the Maastrict Treaty. Because, for all the – often politically motivated – pleas to stop the dumbing down we are all post-modernists now and all newspapers know and exploit this. Our gaze and that of the media is all devouring, and at many levels we make little distinction between Bill Clinton and Mick Hucknall; Gerry Adams and Ginger Spice; Rupert Murdoch and Martin Edwards. All are worthy of a pub conversation, or a *Guardian* leader.

For the consumer this necessary dumbing (or indeed slowing) down is mandatory for health reasons alone as every other sphere of life forces us to accept that we do not have enough time. From gymnasiums to European championship away games, video rentals, the Net; through childcare, distance learning (to keep a job over the age of 40 in some industries a requirement), travelling to see divorced partners and children, life has changed. It is following an inextricable thesis of speed, and change. Younger, faster, bigger, better – different. And we who have known an easier time, an Edenic world of a few newspapers and three television channels, now snatch at news, and its new chum entertainment, driven by some social compulsion that it is a requirement of 'living'. At the same time we are haunted by the sense that 'keeping up with the news' is an absurdity. If this is not the case, why then the successes of digests of news, The Week, the Editor in *The Guardian*, the myriad of copies of this idea which we now find in newspapers and magazines, which fulfil the needs of those of us who *feel we have* to keep up?

Newspapers in one sense act as agents of nostalgia: they remind us of what it was like when the world was simpler, and people did, actually, read a paper from page one to the end, did know what was 'happening'. It doesn't happen any more. Consider the success of *The Sunday Times*, a pioneering newspaper in so many ways during the eighties, but primarily because it gazed back at us and said: throw away eighty per cent of me: you've bought me anyway. News is now all-pervasive and disposable.

Which is where, of course, the nirvana of the digital 'Daily Me' or the personalised online newspaper (and digital television's vision of content on demand) concepts energised and made manifest through the ideas (and lucrative media sponsorships) of Nicholas Negroponte's media lab at MIT takes root. Here we do not throw way *a la Sunday Times*, we are delivered what we want, when we want – the ultimate in dumbed down culture if you support Plymouth Albion and dream only of news about Cindy Crawford; perfection if you yearn for Microsoft stock figures and digests of Tony Blair's speeches.

Now, just a few years on from the debate about such notional ideas, agenting software (Autonomy, Net Perceptions) on the Internet and the aggregating tendencies of web sites such as Netscape's or Yahoo!'s which buy in news content from multiple news sources and add to it gossip, shopping, weather and free email (and lots of software downloads) and add in 'personalisation' to provide 'my yahoo!' or 'my netscape' make for such an appealing package. Such sites are known as portals – one-stops for the living of the online world. They are truly seductive, for bizarrely they offer in difficult and confusing times a surrogate Reithian world of surety. So much has been written about 'personalisation' – its pros and cons, its hermetic, blinkering vision; or its liberating self-centred *usefulness* – that this is not the place to argue for or against its application. The point is not that these 'portals' will succeed, rather that speed and change is on their side as they march onwards encompassing and appropriating news. These organisations, not traditional publishers in any sense, accept news as part of a much broader package – called living.

News has always lagged behind more commercial activities such as advertising. Most sophisticated web sites these days use advertising software (Doubleclick is one example) which monitors or gazes on the viewer, reads their email address, makes assumptions, and delivers adverts which are deemed most suitable to that person. If a user is known – somehow, and databases make this easy – to be a business traveller, they will receive travel advertisements even if they are reading the horoscopes of *The Boston Globe* or the online columns of *The Daily Telegraph's* Boris Johnson. The gaze back, like it or loath it, is here.

The second area of tension to consider is that of the subject of news, its content, and the people who create it. Consider this quote from twelve years ago as recounted in 'Paper Dreams':

> 'An American journalist had telephoned him [Andreas Whittam Smith, founder of *The Independent* newspaper in 1987] to ask whether he thought Eddie Shah's planned newspaper *Today* would succeed. Almost without thinking, Andreas said it wouldn't, but when he put the phone down he thought again. Why shouldn't Shah prosper if he could take full advantage of the significantly lower costs of new technology and reduced manning levels? And if Shah could successfully launch a paper into the middle market why couldn't someone do the same in the quality market... they [Maurice Saatchi, and one of Saatchi's senior executives, John Perriss] developed the notion of the 'gap in the market' consisting of young, affluent, politically uncommitted people.'[8]

It is like reading Chaucer, isn't it? The launch of *The Independent* was a major event in the history of British journalism. The under-read paper has been reinvented – dumbed up and down – at least five times in the past twelve years, without ever quite catching the zeitgeist of its first two years, when its cool, analytical gaze reflected something of our own.

The above extract from *The Evening Standard* media commentator, Stephen Glover, was written no more than five years ago, and yet the prose is ringed with a Renaissance charm. The charm, that is, of those charmed by technology – as newspapers, finally, reluctantly – always are. Technology wasn't the reason for the success of *Today*, or *The Sunday Correspondent*, or Channel One (Associated Newspapers' attempt to take the cable market in London), or BSB (the Ur satellite channel, before it was bought and merged with Sky), or the first *New York Post* web site, or *The Guardian's*. It was in fact the reason for their failure, for technology made it too easy to start, to launch. Technology that brought us MTV, The Simpsons or Matt Drudge is good; technology that brought the above is not.

Technology is not salvation, nor is its agenda dumbing down. Technology allows more, faster, broader, deeper – be it direct input, electronic archives or the use of Java scripts on the Internet. But technology is merely the starting point, the building bricks of a contemporary media which welcomes infinite diversity, where once it valued One Nation homogeneity. What results from the new media is either timely and attractive to a section of a culture no longer constricted by physical location in space and time, nor by the sorts of experiences, actions, events, and whole worlds in which we can now partake at a distance. Or it isn't.

Technology is not dumbing down – not about the move from the crusty sub to the 'spellchecker'; nor from the overworked librarian to the Yahoo! search engine. Technology is about synthesis between the human and robot to make life more relevant, *more easy*. A sub-editor can carry out the chores of editing faster, so can spend more time working on the substance of a story; or process more stories faster – this latter point is the bedrock of real-time Internet journalism, with its round-the-clock, global, demands for the timely and the new.

Or take the notion of freedom of information, in an era of giant databases which can be interrogated by the most humble web browser, we should be able to find out anything we wish from our notional battery powered laptop in Antarctica. 'Information wants to be free' was the clarion cry as the Internet first took its place amongst its wiser media elders. From *Wired* magazine to the Electronic Freedom Frontier to the Labour party in opposition a plea was made for openness, universal access, freedom. And it was – and is possible. The mistake was that freedom also brings 200 Diana conspiracy web sites, it brings live sex from Amsterdam and naked celebrities, it brings email spam gushing onto our computers, it brings chat rooms in which bad things are said. We have brought them, just as much as they have been created: in the new media synthesis the market, and our basest – as well as our most noble – desires can be and are satiated. Dumbing down this is not, this is the 'stain' of our consumption patterns. It is another demonstration of the inevitable outcome of liberalism and the free market – the triumph of the individual.

Two passages reveal the limits of the debate: essentially between those who, like Susan Karlin, that yearn for an order, and those such as the pragmatist philosopher, Richard Rorty, who suggests a very different kind of structural approach to life.

- 'While Britain fights to save that great institution the News At Ten from relocating to the slum of the TV schedule, 6.30 p.m., here are a few words of solace on the occasion of possible defeat. America has aired network news at 6.30 for years – sometimes even earlier. And we have found that having an ill-informed population never hurt us. We still get out and bomb the occasional country. That's how American youngsters learn their geography. Besides, as soon as we started dumbing down our entertainment, it became our top export. There's money in stupidity. In fact, one network here, ABC, created a whole promotional campaign based on how dumb TV is. It had slogans like 'don't worry you've got billions of brain cells,' and 'Without TV, how do you know where to put the sofa?' This campaign was considered controversial mainly by people whose lives were already going down the cathode ray tube. To me it seemed rather practical. That way, if ABC's shows stank, they fitted its image.'[9]
- 'In what does this 'liberal utopia' exist? Rorty's fundamental premise is that we must 'drop the demand for a theory which unifies the public and private' and be 'content to treat the demands of self-creation and human solidarity as equally valid, yet forever incommensurable. The ideal, utopian society would then be a society in which the domains of 'public' and 'private' are clearly differentiated, a society making possible to every individual and community the free pursuit of the 'different sorts of little things around which they centre their fantasies and their lives', a society in which

the role of the social law is reduced to a set of neutral rules guarding this freedom of self-creation by protecting each individual from violent intrusions into his private space.'[10]

Rorty's utopia is not unlike contemporary media, where the unifying public/private theories of say Lord Reith or of the editor of *The Times* in 1960 – i.e. the great rhetorical voices of moral certitude which talk to and for the nation (in political terms Marx, or Mao, or even Thatcher) – have been replaced by a differentiated world (media) in which our private desires (interests) can be pursued. Instead of the, say, twenty books reviewed on the books pages of *The Observer* we can read an infinite number of reviews on Amazon.com. Instead of viewing one advert for dog food, we can now, in the US, watch The Food Network's 'Cooking for Dogs' show.[11] Instead of reading in *The Guardian* about Bill Clinton, we can read every major broadsheet's view on the Internet. Instead of reading a review we can *write* it.

Publishers, the great editors, the great unifiers of public and private, are in general, one of the biggest investors in the new technologies; many US newspapers can boast impressive web sites, sensitive to all our needs, many use sophisticated computer aided reporting processes. Their problem, as all media now finds, unless it has taken a niche so slight it can physically describe each reader, or each dog, is that audiences know better, know faster, how to respond to the world that the media describes. These audiences have a private world with which they use as a microcosmic lens onto the 'public' world that is the focus of media. This is not a process of dumbing down, but natural intelligent agenting up. Of personalisation taking place far beyond the silicon chips of software filters.

This is a world of speed not just caused by technology but social progress, by an ever more hungry need for self satisfaction. Recently the author was attempting to set up a temporary demonstration web site (*www.europemedia.com*) using a Dutch ISP (Internet service provider). There was a problem on the site and an email was sent to the webmaster. Normally one would expect a response within half an hour. It took a week, but the excuse was telling. The webmaster – indeed the owner of the ISP – was 'taking his O levels'. He is 15 and has been in business for two years. What media does he consume, one might ask. Is he dumbed down by new media or immensely liberated. Time, of course, will tell.

Dumbing down: the conclusion

The three quotes which begin this article reflect the gaze back, as it were. They show us a confused world of media overtaken not so much by technology, as by its ever more 'private' (i.e. choosy) audiences: the BBC Online (the £35 million loss making Birtian future) reporting on the Teletubbies (the hugely profitable true future); the straight-laced Kirkus Reviews trying to be hard on modern media but remembering that: 'Bad news is good business, and the news in Dumbing Down is pretty bad'. And a doyen of US journalism shifting a few old fashioned book units – he's been interviewed on Amazon.com – to tell us: 'the newspaper has to be the medium that verifies. It has to be the medium that says to the reader in the morning after they've been blitzed out on too much information, 'This is confirmed and factual.' '

Which would explain why most newspapers now carry extensive corrections pages each day, wouldn't it?

Some of us do want to believe in the rhetoric of dumbing down, we have a need for nostalgia; others are already living the next millennium, slaves to the virtual world that is being 18 hours online a day. The point is that there is no one defining 'nostalgia', not 'virtuality' – but millions.

In the context of our 'gaze' and the way we now objectify any and all content, newspapers and broadcasters can do two things: shine their mirrors more closely on the private myriad *us*, accept that dumbing down is necessary to make sense of the world, and important psychologically for us as we try to define who we are; or dream on about the unifying 'public' powers of technology (and let us ignore the World Cup, right now).

Sadly, unlike the world of technology, the newspaper and broadcasting world is full of dreamers staring only at their own reflection. Now that (and it) is the great patronising myth of dumbing down. In a doubly ironic way, Susan Karlin provides the perfect sentence to describe this tension: 'Perhaps, in time, Britain will adjust and enjoy the same vapid short-attention spans that make America the great culture it is today…'[9]. It's all in that sentence: make of it what you will.

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Notes

[i] Bank goes for online information.

NatWest, has launched an online information service, Zenda, which has multiple outlets. The first stage of the Zenda trial, which will last for six months, will help people manage their personal, everyday information needs and remind them of key dates such as birthdays and anniversaries. If the initial trial is successful, Zenda will be developed further. What is interesting is that a bank should be one of the first copies in the UK to attempt this 'online lifestyle'. Traditional media theory suggests that brands do not translate well when they move into uncharted waters. Zenda users – who don't have to be NatWest customers – can choose how to contact the service – they don't have to use the same method every time – e.g. telephone calls answered by people (not machines), who are specially trained to help users find the information they want; fax to send requests and receive replies; email to and from Zenda, with file attachments in the post – useful for bulk information such as travel brochures. Messages to pagers and cash machines will be added to the list of options in the future. *swww.europemedia.com.* 8th September 1998.

[ii] 'And if Tony Blair thinks TV is dumbing down now, wait until there are 200 channels. If you don't believe me, the next time you're in the States tune into The Food Network. There's a cooking show for dogs. Really. The airwaves of 1998 will be remembered as a virtual Mensa convention.'

Electronic books

Tony Cawkell
Cawkell Information Technology Services Ltd. PO Box 565, Iver, Bucks, SL0 0QZ

A good book is the purest essence of a human soul
Thomas Carlyle

Book
A number of printed pages bound together along one edge and usually protected by thick paper or stiff pasteboard covers.
Dictionary

Electronic book
A term used to describe a text analogous to a book that is in digital form to be displayed on a computer screen
International Encyclopaedia of Information and Library/Science

Abstract *Books include novels, dictionaries, telephone books, textbooks, anthologies, instruction manuals, proceedings of meetings and directories. The phrase 'electronic books' has been applied to some types of CD-ROM systems, palm-top CD players, on-demand text, electronic document systems of various kinds – in fact to almost any kind of computer-based text system that needs hyping up for marketing purposes. The future prospects for the electronic book are examined in this article.*

In praise of printed books

The author believes that books will be published for many years because:

> 'Inefficient as the paper book or journal may be, the fact is that at the presentation interface the print-human match is far better than the machine-human match, both in terms of information transfer and of human behaviour. For general browsing, book reading, scanning news items, appreciating pictures or drawings, and being generally entertained, print on paper is superior.... It can be written on, carried about, and digested in aeroplanes, on trains, or in the bath. It looks nice on shelves, and makes a very acceptable gift. In newspaper form, print is being displaced by other materials but continues to be used, even when all its information functions are over, as a heat retaining fish and chips container.'[1]

A screen cannot compete with printed pages in terms of ease of annotation, portability, convenience, quality, colour, aesthetics, immediate availability of large chunks, and the ease and speed with which large chunks may be ignored. The advantages of print, as listed above, are still applicable today. Further development work on the electronic book may eventually remove some, or conceivably all, of these advantages.

Jennings[2] entertainingly describes book futures:

> 'There is simply no experience in life that matches silent reading... readers make everything happen just the way they want it to. The actions, scenes, and voices in a book come to life entirely in the reader's mind.... Sometimes when I can't go to sleep I see the family of the future. Dressed in three-tone shorts and shirts of disposable papersilk they sit before the television wall of their apartment; only their eyes are moving. After I've looked for a while I always see – otherwise I'd die – a pigheaded soul in the corner with a book; only his eyes are moving but in them there is a different look.'

A considerable amount of research has been done comparing the 'tube' and print for reading and information skimming. Some convincing evidence accrued during The University Licensing Program (Tulip) project[3] in which over half a million journal pages were made available for display on users' desks at nine major US universities. 'Experience shows that, even with anti-aliasing technology, page images displayed on the computer screen are not really suitable for reading.' Page images were printed for reading and printing was unsatisfactory because 'even the newer high capacity laser printers could show an exceptionally slow throughput...'.

Ideas for electronic books

An early nineties view of electronic books is provided by Reynolds[4]:

> 'Soon you won't have to worry about running out of space on your bookshelves, and you will not have to carry those heavy boxes of books from one house to another when you move... electronic books are fast coming into being.'

'Soon' and 'fast' are suitably vague, avoiding the need for making a forecast which would almost certainly be wrong. Reynolds believes that the phrase 'electronic book' was coined by Andries van Damm over 25 years ago. However, it is Kay and Goldberg, working at Xerox's Palo Alto Research Centre, known as PARC, who are usually credited with the idea[5]. The Kay article was a landmark. Later, according to Ryan[6], Kay said in an interview:

> 'I started designing the machine in the late 1960s. I went to Xerox Palo Alto Research Centre with the explicit purpose to make the machine. As it turned out Xerox sort of punked out midway in the thing. All we did was to invent workstations and Macintoshes and stuff like that.'

Ryan says that Alan Kay suggested in the interview that 'future computers will let you move beyond McLuhan's individual'. McLuhan had suggested in the *Gutenberg Galaxy* that new media determines the nature of the social organisation. Kay continued:

> 'The retrieval systems of the future are not going to retrieve facts but points of view. The weakness of databases is that they let you retrieve facts, while the strength of our culture over the last seven hundred years has been our ability to take on multiple points of view... The true significance of the Dynabook (will be)... the effect that intimate computing will have on our culture... five or ten years from now we'll judge our AI systems not on how smart they are but how well they are able to explain themselves to us.'

Dynabook was intended to be a 'notebook with a million pixel screen, eight processors, and both wireless and cable networking'. No guess was made about the arrival of enabling technology but the idea summarises the essential features of an electronic book.

A whole chapter was devoted to 'Machine readable dictionaries' in the 1984 edition of ARIST[7]. Amsler believed that: 'access to them via interactive colour display is technologically attainable... permitting modes of access that are not possible today'. But the electronic book made a substantial advance when Weyer[8] suggested that a future electronic encyclopaedia:

> 'should be as comprehensive and detailed as the best current encyclopaedias. Full advantage should be taken of not just text and static pictures but also video sequences, animation, simulations, music and voice... what the user sees would be custom-generated and based on the encyclopaedia's system model of the user's interests, vocabulary, knowledge of specific subjects and previous interactions with the system.'

Weyer provided an example of an interactive learning facility: 'After specifying a load on a bridge we see the effect of forces transmitted to various truss members' which might 'lead us to the collapse of the Tacoma Narrows bridge from movie footage available on videodisc.'

In 1990 Martyn[9] said:

> 'In order to become acceptable to consumers, the electronic book must have features which bring additional benefit over and above the experience of reading continuous text from a printed book.... It is likely to be most effective as a reference work. This is borne out by early electronic books – they are dictionaries.'

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Other reference material might include 'airline and train schedules, telephone directories, tourist guides, service and product directories and almanacs... electronic books will occupy a niche in reference publishing...'.

Martyn also envisaged an adventurous future for on-demand publishing:

> 'The technology for the electronic book combined with the concept of on-demand publishing makes the production of one-off, on-demand, academic monographs or novels a real possibility. More interesting from the point of view of the entity 'published' is the possibility of customers going to bookshops to have their computer card/cartridge loaded with data from different sources that they themselves select. Likewise, subsets of textbooks could be downloaded at different times for different courses, and customers will be able to download from online databases for local storage and manipulation. Appropriate charging mechanisms will need to be devised.'

The 'electronic book has arrived' syndrome

Science fiction readers will be quite familiar with the electronic book. It is read by any space traveller worth their salt. There was a colour picture of one of these people reading an electronic book on the dust cover of the author's 1986 book *Handbook of Information Technology*.

There seem to have been two phases of 'arrival' – the first up to 1997 and the second from 1998 onwards. A few examples follow. As from 1998, the fact that the right technology is available at the right price is prompting all kinds of announcements. Boring factors, at least as important, which will contribute to the actual use of electronic books, are rarely mentioned.

Murray's[10] electronic book was based on VLSI (Very Large Scale Integrated) circuits. It would be book-size with a flat screen display. Compressed book-length text would be stored in small plug-in memories. It would 'alter the nature of libraries, increase the efficiency of the scientific, legal, and medical professions, minimise information access time in industry, and modify the operation of the educational system'. The Smartbook, to be produced in Australia, was described in 1987. Below its small screen, keys would control a variety of search options from a menu. The Bible was the only title then available but 'a reasonable library of reference works' was expected. Nothing more was heard of it. An illustrated leaflet showing enthralled readers gazing at a screen was produced for something called an electronic book – the Izon micrographics reader, selling for about $100. It used an optical compression system with a form of Fresnel lense housed in a book-size box, with the expectation of breaking the portability barrier imposed by normal microfiche readers. It disappeared without a trace.

The current generation

After these examples of technological kite-flying, 1998 looks like being a vintage year for smaller, cheaper and presumably better kites. Searching the web with Alta Vista ('advanced search') on 19th October 1998 using the phrase 'electronic book*' produced 33,787 hits. Limiting the search with the prefix 'title:' reduced the hit number to 1335. With further limitations by including 'since 1st January 1998' there were 779 hits. With these latter search conditions unchanged except that the search phrase was changed by adding 'and leisure' there were 381 hits. Many of the hits in these searches were advertisements, but the reduction from 779 to 381 by including 'and leisure' is a rough indicator that about half of the hits were about 'electronic books for mass consumption' such as novels, children's books, etc.

Carol Vinzant in a July article in *Fortune*[11] said 'Electronic books are coming at last! Three electronic books are due out in the next several months... SoftBook Press and NuvoMedia will have black-and-white touch screens. Later Everybook hope to sell an electronic book that opens to two colour screens... it sounds like something out of science fiction. That's because the electronic book has been a sci-fi prop since the 1940s.' The NuvoMedia machine is called the Pocketbook. One other, Millennium Reader is not mentioned.

Schuyler[12] provides some more information. For Rocketbook, SoftBook and Everybook, the weight is 1.25, 2.9, and under 4 pounds, size is 7.5" x 4", 8.5" x 11", and 18" x 11", capacity is 4,000 pages, 100,000 pages and 100 textbooks, and price is under $500, $299, and $1500 respectively. These electronic books have different arrangements for content downloading. RocketBook material is downloaded from the web via a PC and port-to-book connection. SoftBook downloads from a private network and phone jack for a $10 per month subscription, while Everybook uses a similar method for downloading books with advertisements, overnight. Schyler provides the names and addresses of suppliers.

At the October 1998 Frankfurt book fair it was announced that NuvoMedia, has joined up with Sharp who already manufacture the LCD screen for it, to produce the RocketBook.

There are other developments which may affect the electronic book industry – if it has yet earned that description. Hitachi were due to supply a 256 Mbit flash memory chip in November 1998 – four times the capacity of those available now. At present it is relatively expensive at $90. However by 1999 a company called Ioptics will be introducing an extraordinary optical storage card called OROM at about $3 for 128 Mbits. The data is stamped on to 5000 32 Kbps storage patches occupying the surface of a small transparent plastic card. Each patch is associated with a micro-lense on the opposite side of the card with a diameter of 450 microns. The card reader embodies an image sensor which detects whether a patch is on or off when it is illuminated by a light emitting diode. The reading time is 10 milliseconds and the transfer rate 1.6 Mbits per second. There are no moving parts The device is described at *www.ioptics.com*.

Standards

The standard new technology Standards problem in the electronic books context was discussed six years ago[4]. But that was in the days when electronic book meant CD-ROM. Each company was trying to establish a de facto standard – the usual new technology problem. The problem was starting to be resolved when an article entitled 'Setting the standard for electronic books' appeared in *The Daily Telegraph* on 5th July 1993[13].

This time round perhaps this problem will be avoided. A group called the 'Open E-Book Standards Group' which includes Microsoft, NuvoMedia, Softbook, EveryBook, Hitachi, Bertelsman, HarperCollins and others has been formed. The Standard is supposed to be agreed by early 1999. It will cover a file and transmission format, a markup language, copyright for access to book titles, etc.

Content

A large number of popular books are free of copyright. Professor Hart of the Gutenberg Association at Carnegie-Mellon University is in charge of distributing books for which nobody owns the US copyright. There are plenty to choose from. The text of these books may be copied and distributed in the US without permission and without paying royalties. The Gutenberg Association aims at producing 10,000 digitized titles created by OCR scanning by the end of 2001.

A US company called Publiotech owns Electric Press which provides a web-based system enabling publishers to sell books on demand directly to the public. Fuji Xerox offers this system in its BookPark service to reduce publishers' capital investment in book preparation. The service is also intended for the large market of self-publishers. As a large number of publishers including Hearst, Thomson and Xerox (for its Book in Time service) use the Publiotech system; book content is ready-prepared for distribution to the electronic book market if a publisher wishes to enter it.

Will anybody use electronic books?

Professor Hart says that what he is waiting for is a paper-sized text reader with 200 books loaded into it. He does not say to what extent he would be put off by having to read from a screen instead of from paper. As mentioned above the very large number of Tulip users did not use their screens for reading; they preferred to read printed-out pages.

The Softbook's size is 8.5" x 11" so the screen available for displaying text is probably about 8" x 10" or about 13" diagonally. Alt and Noda[14] provide information about the potential of displays for resolving data, given that there is no point in going beyond the eye's limiting resolution of about 1 minute of arc. This corresponds to a 10" diagonal screen with an aspect ratio of 4:3 viewed at a distance of 18" displaying 150 pixels per inch. Alt and Noda say that IBM have manufactured a 10.5" diameter prototype liquid crystal colour tube with 157 pixels per inch – equivalent to the print resolution in a high quality magazine. Note that only *resolution* is being considered here. If colour data is included at, say, 24 bits per pixel, 157 x 24 = 3768 bits of *information* are being viewed.

From the foregoing paragraph it seems as if paperlike – that is having a resolution as good as print on paper – screens for electronic books could soon be available. But what else is necessary for them to come into general use? The purpose of some types of book is to provide easily retrievable information. Examples include encyclopaedias, reference books, textbooks, instruction manuals etc. Well known, likely to be helpful, methods of retrieval from stored text can be applied to electronic books of this kind.

For leisure reading, the cost, convenience, ease of reading and easy availability of a large number of books may eventually come right. An intangible residue will remain. Will readers, perhaps older readers in particular, value the traditions, appearance and presentation associated with conventional books to the extent that buyers will be limited to a younger gadget-conscious, keep-up-with-the-Jones's group who currently have no books on their shelves and spend their leisure hours watching the television? In fifty year's time what will their bookshelves look like? Collectors will still keep printed books but will you be able to borrow them from the local library? Carlyle waxed lyrical about books – as quoted at the beginning of this article. How lyrical would he have been if he had been holding the essence of the human soul within a boxfull of integrated circuits?

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Librarians – architects of the future?

Julie Rowbotham
Managing Editor, Virgin net, 20 Soho Square, London W1A 1DS
Email: julie@london.virgin.net

Abstract *This article explores the reasons why librarians should be at the heart of Internet site development. There are two distinct ways in which librarians can most effectively contribute to this medium. The first is by getting involved in information architecture. This new discipline requires skills such as expertise in search techniques and navigational logic, and generally involves the librarian working closely with graphic designers to create a firm foundation for the site. The second area is the role librarians can play in the structuring of the data which drives the site (data management).*

Introduction

For many companies and organisations, the building of an Internet or intranet site is a fairly traumatic affair. One of the key dilemmas is often the question of which department should oversee the structuring of information on a web site project: should it be the Design department, traditionally responsible for the visualisation of information in other media such as print? What about the IT department? Or perhaps it should be left to the Editorial or Marketing department, as they would understand the nature of the information in question. This often still leaves something to be desired as a site structured by Marketing, say, will be designed with a marketing person's objectives in mind. All departments will want to make a contribution, but there does need to be some central co-ordination for the structuring of the site. What is in fact needed is someone who can understand the information needs of all departments concerned, but at the same time be able to step back from the detail, take an objective viewpoint and see the bigger picture. More importantly, it needs someone who will look at the site from the users' viewpoint. The ideal department to fulfil that role, but which is usually overlooked, is the Library.

In the United States, there is a firm which specialises in consulting on the conceptual design of large-scale web sites. Nothing unusual in that, except that the firm, Argus Associates, has for its President a librarian. Louis Rosenfeld obtained a Masters degree in Information and Library Studies from the University of Michigan's School of Information. In his book *Information Architecture for the World Wide Web*, Rosenfeld addresses web site managers:

> 'Many librarians have responded slowly to new information technologies like the web. Some librarians feel that their value as professionals will be diminished as 'virtual libraries' supplant those filled with physical books and periodicals. Many librarians fear that the public will bypass them and go directly to the source via the Internet. The truth is, however, that skills in information organisation and access are more and more necessary in this era of information explosion. We have found that the demand for our skills in classifying and organising information in web sites has grown beyond our wildest dreams, so we believe that you, your sites, and their users will benefit from our profession's perspective.'[1]

It may be true that more and more people are accessing information for themselves: even the term 'Boolean' (which has long drawn a blank with most non-librarians) now means something to the average Internet user who is familiar with the ways of search engines such as Excite and Lycos. Traditionally, librarians have often organised and classified information in such a way that they can find the information on behalf of the user: in other words, the librarian has fulfilled a physical role of advisor, interpreter and mediator for the user's information needs. If, as Rosenfeld suggests, the librarian's role as mediator is being whittled away (and that is a strong 'if'), it is surely only to make way for a different, more challenging role, and that is how best to organise and classify the information on a web site so that the users can find the information they need for themselves. This does mean, however, that librarians need to play more of a role at the web site development stage.

How can librarians most effectively contribute to Internet development? The answer is by firstly getting involved in the structuring of the site – its 'architecture'. Secondly, they ideally need to be involved in the structuring of the data which drives the site, which we will refer to as 'data management'.

Information architecture

Richard Saul Wurman, a graphic designer, has defined the role of information architect as:

> '(1) the individual who organises the patterns inherent in data, making the complex clear; (2) a person who creates the structure or map of information which allows others to find their personal paths to knowledge; (3) the emerging 21st century professional occupation addressing the needs of the age focused upon clarity, human understanding and the sciences of the organisation of information.'[2]

The visualisation of information has so far primarily been the domain of graphic designers. Wurman here is referring to his own profession, but librarians everywhere should be able to recognise that the definition of what an information architect does matches closely the definition of what a librarian does. Consequently they should see clearly the contribution that they can make to the emerging art of information architecture.

What then does an information architect do in practical terms? In general, an information architect works primarily with designers to create a firm foundation for the site in the first instance, ensuring the logic of the navigational schemes, deciding which information should be displayed where, how the site should be searched, which classification schemes are needed, and generally guaranteeing that there is an overall level of consistency and accuracy.

Foundations

The importance of building the site on solid foundations is often overlooked. By the word 'foundations' we mean giving the site a structure which not only gives the user a clear idea of the site's purpose, but also, with an eye to the future, ensures that the site is extensible. Librarians are accustomed to planning ahead in this way. Extensibility issues affect not only the menu structure (will today's menu options be suitable in six month's time when more information has been added to the site?), but also the maintenance of the site (who will keep the information up to date?).

Navigation

That the site is easy to navigate is crucial to its success. This is often a question of logic: is it logical to lead the user from this page to that? Is this page what a user would expect to see if they click on that particular link? Perhaps also it may be a question of consistency: if a user has clicked once on a cinema name and received show times, they will be confused if they click on the same name elsewhere and just receive information about the cinema itself. Disorientating the user in this way can put them off your site for good. Librarians tend to have, by nature and training, the logical minds to cope with this sort of problem.

Data display

Another important factor is appreciating exactly how much information should be presented to the user at any one time. Librarians understand better than most people the concept (and realities) of information overload. They do therefore understand the importance of giving users just the right amount of information necessary for the user to complete their task, obviously giving them options to obtain further information should they require it. Librarians will also know the different types of 'information seekers' any site will need to cater for: ranging from those who have a very precise idea of what they are looking for, to browsers, to those who really are not sure what they are looking for at all – but will recognise it when they see it! Many of these issues relate directly to web usability – concepts such as making information easy on the eye, understanding how people read on the web, knowing whether users will be willing to scroll down a long page of text.

Naming conventions also need to be taken into consideration. It is vital to use the same language as that used by the users. The subtleties of language often mean that names on the menu, for example, just have to be the right ones: if their meaning is ambiguous, they will only serve to confuse the user.

Searching

Finally, let us not forget the more familiar territory of searching, classifying and relating data, which also constitutes part of the architecture of the site. Peter Morville, co-author of *Information Architecture for the World Wide Web*, states that 'librarians are destined for greatness on the Internet'. Why is this so? – namely because they are the right people to develop the tools to find the information. In a *Web Review* article (with the rather ominous title – 'Revenge of the Librarians'), Morville explains:

> 'You've probably heard the saying that to someone with a hammer in his hand, all problems look like nails. Well, on the Internet, computer science folk tend to hit information retrieval problems over the head with relevance ranking algorithms, intelligent agents, and lightning quick processors.'[3]

After years of searching online databases such as FT Profile and LEXIS/NEXIS, librarians are well-qualified to comment on what constitutes an effective searching system. Morville's statement will ring true for many of us who have experienced the problems inherent in search engines based on natural language algorithms. In the early stages of development of natural language searching systems, designers believed that these systems would finally see off 'librarian-speak' terms such as 'Boolean'. Nonetheless, many of these developers have recently introduced Boolean features into their search engines, having realised that users often require the precision and flexibility that Boolean logic offers. Phrase searching and proximity searching are other bones of contention: a search engine which cannot distinguish between 'John Major' and 'Major John...' is at a distinct disadvantage. Librarians can also see the pitfalls of facilities such as automatic word-stemming – would anybody really want to search for documents on 'collectives' and be presented with documents found with the terms 'collections', 'collectables' and 'collections'? Surely not.

Information professionals can do more than just advise on which search engine to use. Other serious questions frequently ignored by computer programmers are: what is the scope of the search? Should the search engine be let loose over all the content on the site? Has someone thought to discount all those pages which definitely should not be searched – error pages, for example, and ephemera such as message boards. Has anyone given any serious thought to what users will expect to find when they search? Is there too little content to make searching worthwhile? After all, there is little point introducing a search facility over just a few pages of text. A site which returns 'no documents found' for fifty percent of its searches will soon put users off.

Decisions here are often more complex than they first seem. By way of example, let us look at a UK cinema guide, where the user can type in a location and film name, and be presented with all cinemas showing that film, this list being sorted by the nearest cinema to their chosen location. There obviously needs to be a cut-off point for this list: should it be based on distance? – or would it be preferable to only show 10 cinemas at any time? Looking at the distance issue first, there may be a decision only to show cinemas within 10 miles. For your average town this is no doubt acceptable, but what about in London, where within a 10 mile radius of Soho, there must be hundreds of cinemas. At the other end of the spectrum, a user living in the Highlands of Scotland may complain that his nearest cinema is 20 miles away! The London user is going to get too much information to be able to complete his task, whereas the Scottish user is not going to get enough detail to make an informed choice. Finding the balance is not easy.

The beauty of the Internet lies in its hypertext linking facility. Librarians are generally, by nature, lateral thinkers, so are obvious candidates for the job of linking relevant data.

Add to this the fact that they would often have the 'bigger picture' of what information is available in the whole company. More important, they will know how this information is stored and accessed, and are therefore best placed to work out if and how it can be integrated. Introducing any sort of classification scheme to a web site is the obvious way of making the most of the library's core skills – from the categorisation of sites in a site directory, to the key-wording of documents to enhance a search facility. Unfortunately, it does not always follow that the library is asked by management to fulfil this role.

These are some of the issues which information architecture attempts to address. But how does all this work in practice? In the process of site development at Virgin Net, the information architects (librarians by trade) take the service definition (usually drawn up by the editorial team), then discuss how the site should work with relevant departments. The next step is for the information architect to sit down with designers and make sure that the structure of the site is solid, that the 'look and feel' is consistent and user-friendly, and that the navigation is logical. This will then once more be discussed with editorial staff. Finally, the project will be mocked up in HTML by the designers. Throughout this whole process, the librarians work closely with the Design department.

Data management

We have seen how librarians can be involved in the structuring and appearance of the site itself. They can also influence the structuring of the data behind it. In order to be able to fully manipulate the data at the front-end of the service, the data needs to be stored in exactly the right format at the back-end.

More and more sites are now database-driven. A knowledge of how relational databases work is vital. This does not mean having to start constructing databases ourselves, rather it means that we need to have a good understanding of relational database theory. Armed with this knowledge, the library can judge whether it would be best to store data in database format and how easily it can be manipulated.

Librarians are also qualified for the task because by nature they are pedants for detail. Who else cares whether a band name within a Gig Guide is stored as 'The Verve' or 'Verve, The'? Often, this will result in a whole series of bands listed under 'The'. Those sites that do make an effort at a proper 'indexing' solution sometimes get it awfully wrong: 'Girls, The Spice' and 'Dub Foundation, Asian' are two entries which spring to mind. This concern for quality means that the library will concern itself at an early stage with questions such as: who will be inputting the data into the database?; how comprehensive is the data? The currency of the data is also important. Literally anyone can be a web publisher, and fill their site with useful information. Take as an example a health site which publishes addresses of self-help groups on static pages: on Day One, such a site would no doubt be useful, but six months down the line, as information becomes out-of-date, the site will be next to useless. Care still needs to be taken even if the information is stored in database format: a cinema guide which includes the price of seats for each cinema is a very useful service, but will most likely be out-of-date as soon as it goes live: unless of course you can manage to get every cinema to give you amended prices every time they go up.

If all these quality control checks are not in place, the site will be inferior in quality and users will find it difficult to find the information they need. In the worst cases, it will be useless – incorrect listings information, for example, is as bad as no information. This is not the only consequence – badly organised data management will be a drain on the company's resources. This is perhaps, as far as management are concerned, one of the most convincing arguments for getting librarians involved in site development. For any web site to be viable, it needs to address all the data management issues mentioned above. A web site which doesn't get answers to these questions is asking for trouble.

Conclusion

All this is not to suggest that librarians can do the job of graphic designers or computer programmers. Rather it is a case that librarians understand so many issues surrounding the manipulation of information that they should be at the heart of the process of gathering and organising of information for any web site. True, graphic designers, computer programmers and editorial staff could learn the skills of indexing and searching, but librarians have a head start in that they already possess these essential skill-sets (and are highly motivated in their employment). Librarianship and Information Studies courses do seem to be producing students who are skilled at using the Internet as a research tool, but few seem to be pointing students in the direction of web development. So which non-librarian skills would students need to develop to be part of this exciting development in the information world? – an understanding of web usability issues and relational database theory would be useful, but an overall understanding of what web information architecture means is essential. All this will be to no avail, however, unless companies and organisations sit up and recognise the role that librarians could play in web development.

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Library evaluation: some options for academic libraries
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Computer-based video – a tool for information skills training?

Cathie Jackson
Information Services, Cardiff University, PO Box 430, Cardiff CF10 3XT
Email: JacksonCM1@cf.ac.uk

Abstract *Computer-based video facilitates the creation of 'movies' recording actions on a computer screen complete with a voice-over by the tutor. This paper describes the application of computer-based video technology for point of need instruction on database searching. The Lotus ScreenCam software was used, being both inexpensive and readily available as part of the Lotus SmartSuite bundle. Initially, eight short movie clips were created, covering the techniques for searching PsycLIT on CD-ROM and the ISI citation indexes via the BIDS gateway. The movie clips were made available on library PCs where students search these databases. The paper first examines educational theory to identify the role of computer-based video within the educational framework. The movies created at Cardiff University are then described and the issues in design and implementation discussed. Finally, the effectiveness of this method of database searching instruction is explored and compared with more traditional point-of-need instruction techniques such as the handout, computer-based tutorials and staff assistance.*

Introduction

Lotus ScreenCam provides the facility for recording the activity on a computer screen to a computer file. This file constitutes a video or 'movie' of the activity and can be played back whenever it is needed. If a microphone is attached to the computer during the recording, a voice-over can be added. Once finished the movie can be embedded within a web interface or displayed as icons on the Windows desktop and can be made available to students on PCs in their classroom, computer lab or library.

Despite its ready availability, both as part of Lotus SmartSuite and as a stand-alone application, and the ease and speed with which movies can be created, a search of the information science literature did not identify any evaluation of computer-based video as a tool to be used in information skills instruction. To evaluate its effectiveness, a number of movies were created, giving brief reminders of how to access, search and save from two key databases used at Cardiff University. These movies are now used in the Arts & Social Studies Library on the PCs used for searching non-networked CD-ROMs. Further details of the content and operation of these movies are described later in the paper and their value compared along side that of handouts, staff assistance and traditional computer-based tutorials.

The movies were designed for point-of-need instruction, complementing the structured information skills programme integrated into students' curriculum. A review of educational theory indicates that this may be the most appropriate role for this, essentially narrative, medium.

Educational theory

The most significant contribution to the literature on the educational effectiveness of computer-based learning in recent years comes from Diane Laurillard. In her book *Rethinking University Teaching*[1] Laurillard provides a framework for analysing educational media (print, audio, video, computers) in terms of how well they each support the teaching-learning process. She describes the teaching-learning process as consisting essentially of:

Discussion	between the teacher and learner at the level of descriptions
Interaction	between the learner and some special aspect of the world defined by the learner
Adaption	of that special world by teacher and action by learner

Reflection on learner's performance by teacher and learner

This framework is used to consider the extent to which each medium can support each part of the process. Print can do little more than convey the teacher's description, one aspect of discussion. Interaction is vital in the learning process as it situates academic knowledge in our experience of the world. The interactive computer-based media can support the learner in what is otherwise only possible through real-world experience. Finally adaption and reflection connect the discussion with interaction as the student adapts behaviour and reflects on the result in order to modify and develop their own ideas. Few media, Laurillard observes, can support the learner in either adaption or reflection[2].

The different media contribute to the learning processes in different ways. The ScreenCam movie in itself is a narrative medium, as are the traditional methods of lectures, print, video and audio. They support learning through acquisition of knowledge. Narrative media are good at conveying the teacher's ideas, putting the teacher in the role of 'storyteller' and the student in the role of 'listener'[2]. On their own however they do not achieve the effective learning described in Laurillard's framework above. The ScreenCam movies would be an ineffective method of teaching information searching skills if used in isolation.

Narrative structure is fundamental to comprehension[3] but it must be complemented by the other steps in the learning process. In the case of the database searching skills teaching described in this paper, the movies are just one part of the total learning experience. Most learners have been introduced to the overarching concepts of searching in a previous workshop or lab. The movie supports learning as required by the individual learner. The hyperlinked one concept movie clip enables the learner to repeat the narrative required, at the point of need, replacing or augmenting the handout as one aspect of the process of learning. The interactive and adaptive elements of learning are developed as the student switches to the real world environment of the database and tries out the skills in practice. If the student experiences problems, the movie clip can be replayed or an alternative clip viewed.

The importance of allowing learners these opportunities for revision is highlighted by Bridget Somekh in her review of learning theories of relevance to the design of computer based learning. Somekh notes that it is unreasonable to expect students to remember everything they have learned. They need to revisit concepts, perhaps many times, until they are clearly laid down in well-developed mental schema[4]. Bruner addresses this through his 'spiral curriculum' where concepts are revisited over a period of time and through a number of approaches[5]. The ScreenCam videos described in this paper are a means by which learners revisit concepts and techniques that have not been fully assimilated through the earlier workshops and labs. The printed database guides and the help of the library staff provide alternative learning methods if required by the student.

Another consideration in the design of computer-based learning is the need for learning to be 'situated' to enable appropriate mental schema to be constructed[6]. Learning can be made more difficult if the context of learning is far removed from the context of application. Computer simulations may be unhelpful in this context if they require the user to learn a complex set of rules in relation to operating the computer, which are unrelated to the simulated authentic context. On the other hand, the ScreenCam videos for database searching are simple to operate and are used on the same machine as the databases to be searched. This highlights another important feature of situated learning in that what is learned can be applied immediately in a real situation to solve a problem[4].

In recent years, the efficacy of animation-based instruction such as ScreenCam has begun to be evaluated. An early study of relevance to ScreenCam-based instruction was reported by Gist, Schwoerer and Rosen, comparing a behavioural modelling method of training for computer software use with that of a tutorial method[7]. In the behavioural modelling method, live or videotaped demonstrations of performance were shown to the trainee, who would then imitate the behaviour in a practice or work situation. This is a similar method to that used for the ScreenCam movies. The tutorial system represented computer-assisted instruction, with illustrative examples, programmed instruction and structured drills, feedback and reinforcement. The behaviour modelling training produced better performance and work styles as well as a greater satisfaction with training. Learners could observe each task being performed correctly and be shown the results.

Palmiter and Elkerton added words of caution in the use of animation for computer training, when they considered both the short-term and long-term effectiveness of the method[8,9]. During training, users of the animated demonstrations learnt faster and more accurately than those using procedural textual instructions. The users of the animated demonstrations enjoyed their instruction more. Those using text only would have liked to see the demonstrations, but those watching the demonstration showed little inclination to view the text instruction. Nevertheless, after a week the text-only users were faster and as accurate as demonstration users in performing similar tests. Palmiter and Elkerton concluded that the animations encouraged learners to mimic the actions without encoding. This passive learning is not effective for long-term retention. This research is consistent with that of Schmidt and Bjork which concluded that, in general, training that requires more of the learner leads to poor immediate performance but good long-term performance, whereas training that requires less of the learner leads to good immediate but poor long-term performance[10].

Guidelines on the design of animated demonstrations

From the literature mentioned above, a number of guidelines could be extracted to improve the effectiveness of animated demonstrations for long-term retention of computer skills.

- Where possible, have learners first try to perform the tasks without instructions, to force them to engage in problem solving[11].
- Create animations which will not simply be mimicked[8] by not referring directly to the actual objects learners will be using to practice the tasks[12].
- Include the verbal component with the demonstrations so that the verbal, visual and motoric components are all present[8].
- Add conceptual information verbally rather than simply producing an auditory version of the procedural instructions[12].
- Ensure that all results of an action are visible during a demonstration[8].
- Be careful how you pace a demonstration. Pre-testing is advisable[8].
- Provide the procedural steps in written form to enable procedures to be reviewed quickly. Link each procedure to a short animation to provide users with the opportunity to see how the task is performed[12].

Student motivation

Viewing the ScreenCam videos is not compulsory for any student in Cardiff. Learners are only motivated to use the videos if they perceive that they do not yet have the knowledge or skills necessary to successfully search the database, or have experienced difficulties in doing so.

For some, natural curiosity in a new teaching technique or in learning how to use the databases has produced the intrinsic motivation required. For others, however, the computer itself as a context of learning may undermine confidence. Maslow's hierarchy of needs[13] suggests that students will not be eager to try the movies if their need for safety is not first met. For students with negative experiences of computers, the use of the computer as the context of learning may itself obstruct learning. Pirsig calls this an 'internal gumption trap' or a 'value trap which blocks affective understanding'[14]. It is hoped in the case of the ScreenCam videos that as the real-world situation taught is also computer-based, the videos will not deter users but, by clearly showing the techniques involved, will help overcome this obstruction to learning.

Motivation is increased if the learner enjoys the training method. Carroll observed that most users want to jump in and try things out using meaningful tasks rather than patiently reading the manual and practising the skills[15].

Training methods which people enjoy obviously have a tremendous advantage; even the best system in the world is virtually useless unless people are willing to use it[12]. Woolf noted that learners are often eager to interact with multimedia teaching systems and noted the case of recovery boiler operators who willingly spent up to 76 hours in three months using a graphical computer tutor simply because they enjoyed using the system[16]. Cornett found that learners typically enjoy using animated instructions and find them helpful. The learners sampled, if given the opportunity, would choose animated instructions over text-based instructions[17].

Speed of learning is also a motivational factor. It has already been noted that learners do not want to learn by reading text[15] and that animated demonstrations lead to faster and more accurate training than text, at least in the short-term[8]. On arrival at the information desk with their specific search in mind, students are motivated when they learn that the movies are only three minutes long and that the whole technique can be demonstrated in ten minutes.

It is not only the students who must be motivated if the movies are to be used. Library staff at the information desk act as gatekeepers and as such are key to the success of this innovation. Students enquiring for information which requires the searching of a database can either be given a handout and the search initiated by the library staff, or be given headphones and directed to the movies. Library staff will direct students to the movies only if they perceive that the learning will be greater and speedier and the searching more effective through using the ScreenCam movies.

The movie project at Cardiff

In the project movie clips have been created for two bibliographic databases, PsycLIT and the ISI Citation Indexes on BIDS. PsycLIT indexes the contents of 1300 psychology journals. The ISI Citation Indexes are multi-disciplinary, indexing over 7000 journal titles covering almost all academic subject areas. BIDS is accessed through the World Wide Web and therefore requires a networked PC. PsycLIT on the other hand, at the time of the trial was available via a CD-ROM on the non-networked PCs. Students could switch between viewing the ScreenCam movies and searching PsycLIT.

For PsycLIT, movie clips cover:

- searching;
- interpreting the results;
- refining the search;
- printing and saving results.

Movie clips for the ISI Citation Indexes via BIDS cover:

- accessing BIDS;
- searching;
- viewing, printing and emailing results;
- citation searching.

To ensure both relevance and immediacy, each ScreenCam movie clip in the project is approximately three minutes long.

Although the BIDS movies are relevant to a wide range of students and open for all to use, the main target group was the large number of undergraduate Psychology students. First year undergraduates were introduced to both BIDS and PsycLIT during the first semester. At this stage in their academic career both databases are helpful to them when searching for references for their essays. Due to temporary network difficulties at the time of the project, most Psychology students came to the library to use the databases.

The ScreenCam videos can be accessed on two non-networked CD-ROM workstations situated near the information desk in the Arts & Social Studies Library. The machines are used primarily for searching CD-ROMs not mounted on the network. The icons to run the ScreenCam movies have been placed together with the icons to launch the CD-ROM databases in a single folder on the Windows desktop. A movie is initiated by double-clicking on its icon and the commentary can be heard through headphones.

Figure 1 shows a running movie, at the point in the movie where the search term is being typed in, while the verbal commentary is explaining the concept of combining terms. In the lower right corner of the screen, the Lotus ScreenCam control panel allows the learner to pause the movie, rewind it to the start, fast forward or end the viewing. The controls are similar to those on any VCR or audio tape player. A green bar on the control panel indicates the proportion of the movie which has been viewed. At any point, the learner can stop the movie and switch to the PsycLIT database and use the techniques reviewed within their search.

Technical specifications

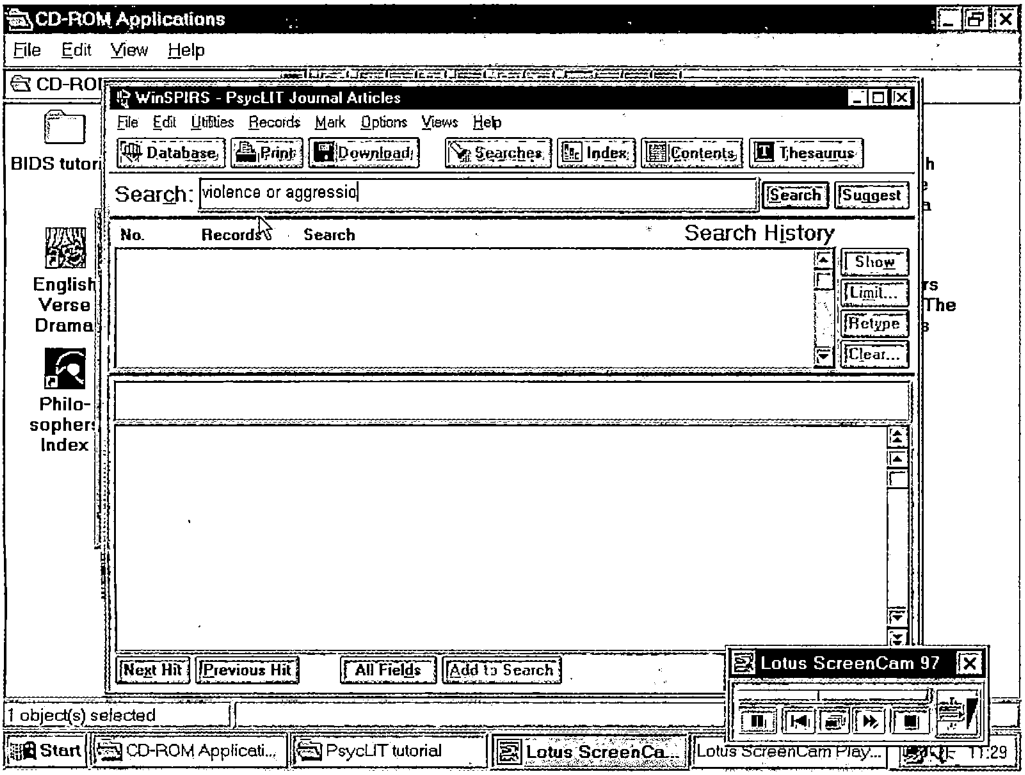
To create movies with ScreenCam97 an MS Windows 95 PC with a VGA 16-colour or higher graphics adaptor and monitor is needed. A parallel port or sound card-enabled device supported by Windows 95, along with speakers or headphones and a microphone, is also required. We used a 266 Mhz Pentium II multimedia PC and 20" monitor.

Lotus permit ScreenCam movies to be copied and distributed without charge and they can be viewed independently of the ScreenCam program. Permission was also sought from the database providers to ensure clearance to use images of the search software in the movies. The movies are played back using Windows 95-operated PCs with sound cards and headphones. With a University network that fully supports multimedia, movies may be loaded on the Information Services web pages so that all staff and students can access the movies on their networked Windows 95 or NT machines throughout the University campus and when searching the networked databases.

Issues in production

The process of recording ScreenCam movies is very straightforward. The ScreenCam controls resemble those on a tape deck or video recorder. The instructor clicks a button to choose to record sound, video or both. As soon as the play button is clicked, every action in the active window is recorded, along with any sound, such as a commentary from

Figure 1.



Search: violence or aggressio

1 object(s) selected

the instructor. Pressing the Esc key ends the recording. Unlike traditional computer-based learning the instructor or 'author' does not need advanced IT skills.

The movie can be authored in the same length of time as it will take to view. Recording in this way is satisfactory for informal movies, for example to show a colleague how a problem or bug has been solved. For a more professional end product, however, more consideration must be given to the presentation. The guidelines detailed earlier in this paper provide a useful framework when producing animated demonstrations for formal instruction.

A number of very practical design issues also arose during the design and formative stages of evaluation of the ScreenCam movies.

- A high quality commentary is difficult to achieve when recording sound and video simultaneously. Early evaluators noted hesitation in the author's voice as I considered both the action to show and how to describe it. A written script would be a distraction rather than an assistance when the instructor is both talking and operating the computer. Redubbing the sound afterwards still produced a sense of hesitancy as I was concerned to co-ordinate the commentary to the pace of the video. After brainstorming with colleagues, we found the best technique was to write a script and record the sound first. The video can then be recorded in pace with the commentary. This produces a more confident and considered soundtrack and therefore a more professional result.
- The tone of the voice is also important. Evaluators differed in opinion on whether the voice should be authoritative and factual or warm and empathetic, as in a one to one situation[18]. The latter approach was taken. Clarity of speech and pronunciation, brightness of tone, pace and the absence of noise all had to be carefully reviewed after each recording.
- Jargon is inevitable within IT. Finding the right balance of terms to use is complex. One evaluator picked up on the author's use of the word *relevant* ('finding relevant articles') but noted that I had explained the option *download*, a word which she considered in common usage and did not need to be avoided. In a previous teaching session, the author received feedback from a student who did not understand the jargon *file*. Finding the correct level at which to pitch these presentations is under continual evaluation.
- The visual cues to the learner deserve consideration. Lotus advises that mouse movements be kept to a minimum to avoid distracting the viewer[19]. After evaluation of early movies the author also made sure that when scrolling, the pace is sufficiently slow to allow the learner to take in the information on the screen.

Many of the above design issues, such as tone, jargon and the use of the screen have parallels within the classroom situation. Feedback from the classroom can improve ScreenCam techniques. Similarly, both self and peer evaluation of ScreenCam movies can result in the improvement of teaching technique in the classroom.

User evaluation

The movies were piloted during the Spring semester. Due to a comprehensive training programme for Psychology undergraduates in their first semester, the number of students in need of training in the use of these databases was small. The feedback was gathered only from students who had a genuine need to use the databases and who had been directed to the movies at the point of need. Not all learners chose to return the form. Six 'real' learners completed the forms. Although the small number of forms in this initial pilot was disappointing, the responses were unanimous. The six respondents strongly agreed that the videos were very straightforward to use and it was easy to follow the information in the video. All agreed that they liked the way the information was presented. Finally, all strongly agreed that they would use these videos in preference to printed guides. Although this is consistent with previous research[9,12,17], it must be remembered that these learners chose to try the ScreenCam movies when offered. A printed guide was also offered. Learners not motivated to try the videos would have used the text instructions and were not represented in the evaluation.

Respondents were asked whether they would be using these videos again. All but one respondent strongly agreed that they would. The one who disagreed noted that her learning need had been met and so would no longer need the video: 'I have learnt how to use BIDS now and so will not need them – although I would use other ones in the series, such as PsycLIT'.

At the end of the form, the respondents had the opportunity to add any further comments. Two comments were made. One learner, having found the information, needed guidance in using the library to track down the journals. The other respondent commented 'There is need for written info as well – too much to remember; excellent to be able to see how to access info'. Atlas notes that written procedural steps are important to assist learners to quickly review tasks, but that each procedure be linked to a short animation (movie) to provide learners with the opportunity to see how the task is performed[12]. The A4 printed guide is not replaced by the ScreenCam movies. The two media complement one another.

The role of ScreenCam movies

The ScreenCam movies are designed not as a replacement for classroom-based teaching but as instructional help at the learner's point of need. When students are about to search a database, many require a reminder of technique or would be assisted by prompts to enable them to transfer their database searching skills to a new database. The learner arrives at the library information desk with a learning need.

The sections below discuss the media by which this learning need may be met – through a printed guide, computer-based package or video – and compare their key features to the new alternative in the ScreenCam movies. A member of library staff at the information desk may of course choose to fulfil the need through one-to-one verbal instruction without recourse to any of the above materials. This may be the most appropriate course of action in cases when the information need may be quickly met, for example if the information need is how to insert the CD-ROM into the PC. However, when the need is broader or more complex, for example how to use the CD-ROM, this method is not satisfactory. Teaching learners on a one-to-one basis is timely. There will be inconsistency in instruction between different staff and at different times. When the information desk is busy, for example, less time will be spent with the learner. Finally, the learner may feel inhibited from asking the librarian to repeat information just explained or covered in a previous lecture. The provision of self-help guides allows learners to explore and learn at their own pace.

Printed guides

Printed guides are the most commonly used method of providing information at the point of need. In Cardiff University, a two-sided A4 guide is prepared for each database and is freely available in all libraries. These printed guides are ideal for quick reference and their portability allows for their use at the time of searching anywhere on campus or beyond. Files of the text of each guide are also on the web for downloading and printing. In this way printed guides can be obtained with ease within an office or lab and their availability is not dependent on library opening hours.

The printed guide is limited to describing the search process and technical information. With the development of graphical user interfaces, concise descriptions of even simple operations can be hard to achieve. 'Many questions resulting from ambiguous interpretations of printed statements may be answered visually'[20]. Multimedia alternatives and in particular ScreenCam movies have the advantage of being able to show the process. Dependency on printed guides can also disadvantage those with sight impairments or dyslexia. Yet the printed guide will remain as a resource complementing other media and techniques.

Computer-based learning

The use of computers to assist learning information skills is not a new phenomenon in libraries. As long ago as 1967, empirical studies found no statistical difference in the amount of learning achieved by students who had taken the regular lecture course on the use of the library and those who had used a computer-based programme[21]. Yet thirty years on, the use of computer-based learning for information skills is still not common place in UK higher education libraries. The reasons are little different than for any other subject discipline. Pedagogical factors such as attention, motivation and situational learning are discussed elsewhere in this paper. Two of the other key factors are economic ones, that is, the cost and effort of producing such learning packages and the provision of sufficient hardware.

There are disparate estimates for the time invested in courseware development. These range from 30 hours development per hour of delivery time, to 800 hours of development for each hour of delivery[22]. There are steep learning curves associated with developing courseware[23]. Even for experienced developers however the time cost can be prohibitive. In one university library, for example, where a number of library skills guides were authored using the Toolbook software, it was reported that each guide took three months working half time to prepare[24].

The provision of sufficient hardware is the other key difficulty. Universities have invested heavily in IT but the experience of Cardiff University is that demand still outstrips supply, as students experience more of their work and leisure activities based at a computer. Where learning requires the use of a computer for extended periods, the provision of a sufficient number of computers becomes a major factor. Linked with this is the ever increasing pace of technological change. Existing PCs become outdated quickly. Computer-based instruction is especially demanding of the new technology. The network infrastructure is also facing major investment needs. Multimedia instructional programs require faster networks. The use of video across the network is not a viable option until networks are upgraded to fibre optic technology. Where the multimedia learning package is only available on a small number of busy PCs in a location distant from the workplace, both students and their lecturers will continue to use the more accessible media of print or live instruction.

This is not to say that computer-based learning is not used at all in the library environment. Several libraries have developed a hypermedia guide to their university library, displaying locations, highlighting services and answering frequently asked questions[25] and, more recently, other libraries have offered a web-based enquiry point[26]. Tutorials have also been developed. TLTP-funded library tutorials include 'How to choose books and journals', 'Library search skills' and 'Study skills'[27]. Newcastle University produced a range of tutorials using the authoring tool Toolbook[24] while other universities have produced a guide to their library catalogue.

The use of these tutorials is not widespread. It is difficult to gather exact numbers of users, but the CTI Centre for Library and Information Studies estimates that very few libraries use the TLTP packages as a key element of their teaching strategy. The reasons for the lack of take-up are varied but a key aspect is the 'not invented here' syndrome, where the tutorials are not seen to be applicable to the situation and needs of institutions other than where they were authored. The tutorials may also seem to be inflexible. It may be impossible or technically difficult to adapt tutorials to a local situation or to update them to new developments.

Very few of the packages address how to search specific databases, other than the library catalogue. Those that do are mostly tutorials and quite time-consuming to follow. These packages are more suitable as a replacement for a live tutorial rather than serving as a quick guide that might attract a student about to search a database. An exception to this is the University of Aberdeen guide CALAIS, which is designed to help learners identify which databases to search[28].

The information skills computer based learning packages are quite textual in content. Graphics too are often not of a high quality. In Cardiff in 1993 we explored the use of Toolbook to create a guide for using a printed legal source. Despite our aims, the pages contained a significant amount for the learner to read. The graphics were amateur in appearance. Laurillard comments that:

'traditional computer-assisted learning was a very poor medium for expressing the teacher's description, as text on screen is unpleasant to read, and pictures and dynamic events portrayed via computer graphics are very impoverished in comparison with what video can offer'[2].

Text and graphics can only describe the steps the learner must follow. ScreenCam opens the opportunity to show the process. In this way, it can provide a quick overview for the student who is about to search. ScreenCam could also enhance the more traditional computer-based tutorial described above, by embedding the movies into the tutorial, integrated with the existing interaction and assessment design.

Video

Although it has not been possible to discover any application of computer-based video in library and information skills teaching, videotape has been used as a teaching tool. Most university libraries have, at some point, used videotapes as a method of introducing students to the library. Videotapes are time-consuming and expensive to make and if used for the library induction, may need to be updated almost every year. Most libraries also found that their film compared poorly to television programmes and other commercial productions.

Video has been used on occasion to teach more advanced information skills. The law library at Cardiff University uses a video when teaching Halsbury's Laws within small group classes[29]. In some cases publishers of key information sources have produced video training packages on how to use the source, for example the American Psychological Association video on the use of PsycLIT. Although employed by some UK institutions, this training video is limited in its effectiveness due to the different methods and interfaces used by institutions in accessing the database.

Short video recordings can be used to illustrate lectures, as a means of creating interest[30]. They can also be beneficial in a small group class to provide an explanation of a source to be followed by exercises where the learner can test their knowledge on the source in question. Videos, however, are less appropriate at the 'point of need'. Students asking at the library information desk are not motivated to watch a long video. If video playback facilities are available in the library, they are often in an environment away from the computer they wish to search. The situation does not provide an environment where the learner can switch between the instruction and the database they are searching as further help is needed.

Conclusion

The literature shows computer-based animation (video) to be a fast and effective way to teach computer skills for short-term retention. This paper has explored the role of ScreenCam videos as an instructional tool to remind students of the steps for searching at their point of need. The movies are the stepping stone to provide learners with the techniques needed to undertake their search. Long-term retention of the techniques is developed through the experiences of the learners as they 'test' their new knowledge searching the database for the information they require.

In a conference issue of ALT-J, two papers highlighted the role of 'multimedia implement-ations... as an augmentation of traditional methods and not merely as an imposed substitute'[31] and their costs 'being add-on, and the benefits being enhancement of education rather than replacement of older methods'[32]. In the same way, ScreenCam movies will not replace the staff at the library information desk, the printed guide or the workshop. Instead, this low-cost multimedia solution can enrich the learning environment, provide further options to suit differing learning styles and, with new faster networks, improve the effectiveness of web-based learning materials.

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The Internet and Japanese education: the effect of globalisation on education policies and government initiatives

Ruth McLaughlin
Internet Studies Research Group, Department of Information Science, City University, Northampton Square, London EC1V OHB
Email: R.M.Mclaughlin@city.ac.uk

Abstract *Examines the effect of Internet growth on education within Japan, where English and the alphabet are not the first forms of communication. In 1997 the Internet Society carried out research to find what language people were using on the Internet. English accounted for 82% of all web sites, German was second with 4% and then Japanese at under 2%. However, with policy changes at the Ministry of Post and Telecommunications, and better translation software, the Japanese use of the Internet exploded. By the end of 1997 the number of servers using Japanese overtook those using German. This article examines the policies, initiatives and developments of the Japanese Government that created this growth and looks at the effect of these changes on educational policies.*

Introduction

'With the trend towards internationalization, the development of abilities and qualities that will enable Japanese citizens to earn the trust of the international community has become an important priority in school education'[1].

This is not a new idea, over 10 years ago former Prime Minister, Yasuhiro Nakasone stated a need to 'provide English and computer education'. Recently he admitted that it would take a 'tremendous amount of time to totally change the Fundamentals of Education Law... but if we fail to act now, our country won't be able to catch up with the global trend'[2].

The past four years has witnessed an explosion of the Internet in Japan, and with it the Government has moved en masse, encouraging the country to improve IT skills and learn English. Not just so they can communicate effectively, but because communication is the new Industry and the key to Japan's economic future[3,4].

Educational background

At the level of compulsory education (elementary and junior high school) there is a 100% attendance rate. Ninety-six per cent of children go on to senior high school. For third level education, junior colleges, colleges and universities are available for those who pass the entrance exams. Postgraduate schools offer masters and doctorate degrees. For all studies beyond junior high school, English is a compulsory entrance examination. The Ministry of Education strictly controls the daily curriculum of primary, junior and senior high schools. Universities are given a certain amount of freedom, but must also adhere to directives given by the Ministry. The chain of command is strict within the education system, with all routes leading to the Minister of Education, but most of the reforms in the educational system have come about from the demands of industry[5].

In the 1960's, the Ministry of Education initiated reforms based on reports from industry. 'Japan achieved a high economic growth rate based on technological innovation and productivity improvement. This resulted in large changes in the industrial structure and in the demand for labor, and naturally industry put pressure on the education system to meet this demand.' In Japan it is accepted that '... industrialization has an impact on every aspect of society' and thus in March 1989 all syllabi were revised to accommodate the impact of the information industry. The major objectives 'were to create qualities which would enable people to adapt to the demands of a society transforming itself into one which is more information oriented and international....'[5]

However, despite various schemes and pilot programmes, the Government was slow to make major changes[6] and not until August 1995 was more emphasis put on 'the basic strategies for the promotion of highly advanced information oriented society'[7]. The Central Council for Education were commissioned to survey the 'Use of Internet in elementary and secondary schools'[7] and the growth of computer use[8]. Schools were to be 'prepared' for implementations which would bring the Internet to as many schools as possible, with the help of industry and the Nippon Telegraph and Telephone (NTT) company[9].

The Council for the Future Status of Higher Education, utilising Multi-media in the 21st Century, was also created and submitted a report to the Ministry of Education concerning the changes needed in higher education policies[9]. As a result of these reports the Ministry issued a statement saying they would be 'Promoting the systematic installation of computers designed for school use, providing and improving software, and providing teachers with opportunities for training and research'[10].

Education and 'internationalisation'

'Internationalisation' is the current term for Japan's foreign language and IT education policies[11]. In the initial reforms dealing with internationalisation, language did not appear to be a major consideration. From 1990 to 1994 the Ministry provided subsidies for all public elementary schools, junior high schools and high schools to install computers and software. This first policy did not provide facilities for each student[12], but in 1994 new targets were set, with a ratio of one computer for every two students (in each class) in elementary schools, one per student in junior high schools and the same in high schools. The remainder of the money for this programme was to come from local taxes. For any necessary remodelling of school buildings, the Ministry would also allocate funds[11].

In 1992 the Ministry of Education chose pilot schools to monitor the effect of computer use, and by 1994 there were 66[11]. The main aim was to examine the children's use of computers in general education and to use this information to develop 'High-quality software designed to reflect the characteristics of individual subject areas'[13]. This study covered all aspects of elementary and junior high school education as it was recognised that computer use applied to all subjects and educational levels. Private sector organisations have also been invited to conduct research into educational software[14].

In 1994, in an attempt to promote (Japanese) internationalisation, the annual Chinese character test (Kanji) for foreigners was made free to try and ascertain foreigners' levels of Japanese[15]. This was part of a drive to encourage Japanese studies[16]. The reality of the results was that outside Asia the Japanese language was not popular. The tests were only taken in Korea and Taiwan, countries that economically would have a desire to learn Japanese, and where the learning of Kanji would not be difficult as it is part of their own writing system.

Interestingly, '95% of overseas students in Japan are from other Asian countries. But the majority of Japanese students who go abroad...head for the United States and European countries'[17]. However, this one-way flow of students does not mean that Japanese standards of English are high[18]. While other Asian countries excel at Japanese and English, the Japanese perform poorly at English. In 1997 the Test of English as a foreign language put Japan 150th out of 165 countries. This placed them 21st out of the 26 Asian countries involved, Singapore, India, China and South Korea taking the top four places[19]. Theories have been put forward for Japan's poor level of English. The most common one is the use of Chinese characters for writing[18,19], as they must be learned by heart. Most students have not mastered the 2,000 required to read a newspaper until they are 16. However, evidence that three of the top four English test results come from countries using these characters does not support this theory. The most plausible idea is that Japanese culture does not support open oral communication, making any other language difficult to learn[20,21].

Perhaps because of realisation of language isolation, recently there has been a 'renewed feeling of urgency to improve people's capability to use English, in the belief that the nation's future depends on that to a significant extent'[19]. With regard to this the Ministry of Education has injected funds into several areas[11], mainly 'subsidies for improvement of foreign language educational equipment and related matters'[22] and 'research on foreign language education in elementary schools and the Internet'[23].

Currently about five hours of English is studied per week[24]. The problem is this is not enough for students to grasp a language so alien, and therefore why should they have to master it orally when they only need it for Internet communication. 'It's not conversation ability, but reading and writing ability... so if the Ministry is going to include English at the primary level, it should be something like "English for the Internet", as a means of getting and delivering information'[17]. For languages other than English, Chinese and Korean are now suggested more frequently,[11] but only 5% of International Language Pilot Schools chose to NOT study English.

The 'International Pilot Programme' was set up for the study of non-Japanese languages and cultures in elementary schools. The Ministry of Education, aware that there was some resistance to foreign language education, stated that they would continue with test programmes in co-operation with the Ministry of International Trade and Industry and now also with the Ministry of Post and Telecommunications[25]. All schools have a native English speaker – 95% opted to study English[17] – present every day and some have Internet access, to improve the children's ability to communicate to the global community. The first schools completed a three year trial period in 1997, when the programme was re-started with different schools. Children from the age of six receive instruction for five to ten hours a week with English speakers, studying language, culture, and history. Where there are computer labs with Internet connections, keyboards function in kana and alphabet. Besides textbook work, research is conducted on topics such as Halloween and Christmas, festivities which the children have no cultural experience of. All school Internets have firewalls, so the information has already been approved, and is used by teachers as backup for language and cultural studies. As any data retrieved, via the Internet, may be in English or in Japanese, it is applicable to all levels of students[12,26].

Another separate study, by the Ministry of Education and the Ministry of International Trade and Industry, which began at about the same time as the Language pilot programme and Computer-use programme, concerned students' use of the Internet[27]. This was the 100-schools networking project and officially ran from April 1994 to March 1996, but did not actually end until March 1997[26]. Out of the 1,453 schools which applied, 111 were accepted and given Internet access and IT facilities for the whole school. The main aim of the Ministries was to 'demonstrate the Internet's potential as a tool for education, information exchange, and intercultural contacts'[27]. Sixty-three of the schools used the opportunity to create English-language web pages, while other schools gathered and exchanged information about their own environments with schools throughout Asia, mainly using English. Teachers concluded that the effect on education was good, children who had once 'despised' English, 'began putting more effort into studying'[27], it made them look at the world outside Japan; in fact children's attitudes towards learning changed. Students took the initiative to research topics for themselves and were more enthusiastic, 'many teachers reported that their roles have also shifted from feeding students knowledge to teaching them how to learn'[27].

This project was considered so successful that it began again in March 1997 with the 'New 100-school networking project defined by three keywords or phrases: internationalization, regionalization, and making use of advanced technologies'[27].

Due to all these initiatives, teacher training has become an issue, with the problems of under-qualified teachers in information technology[28]. Teachers in high schools and some junior high schools were trained quickly to cope with the demand resulting from these changes in policy. For the rest of the educational system, from the fiscal year 1994, 'technicians and other computer experts are retained as part-time teachers providing specialized advice and technical guidance'[29].

Higher education and the Internet

The Japanese University NETwork (JUNET) began in 1984, with an experimental network of computers for academia. Nippon Telegraph and Telephone (NTT) were unable to supply the lines to manage this network although it was undertaken only within Japan, AT&T provided the early service. The following year NTT privatised and expanded[30]. In the same year JUNET could communicate with USENET. By 1987 JUNET was connected to CSNET and thus began Japan's connection with the International community. The project ceased in 1994 when the Ministry of Post and Telecommunications gave permission for the Internet to become commercial and publicly available[31].

The WIDE project (Widely Integrated Distributed Environment), was launched to look more closely at the effect of the Internet on culture, to research translation software and the potential use for better cultural understanding. This project, started in 1986, is the only Government sponsored Internet-related project of this kind[31]. Part of the WIDE's research project brief involves examining the problems that arise from the Japanese language. 'One of the largest technical concerns since 1984 when Japanese networking began has been the handling of the local language.'[31] Initially, English was used for text messages, but this was not successful, as people were not confident at communicating. From this 'character encoding for the Internet' was developed which allowed people to use an alphabet keyboard to input the sounds of their own language and the software would convert it to the Chinese characters and kana text.

This software brought about the first real 'typewriter' in Japan. Before this a simple keyboard could not accommodate the 150 kana syllables, or the 6,000 characters[32]. Although this encoding is used for 99% of Japanese internal email the language problems are still not resolved. The software can become confused and deliver inappropriate characters. There are also the limitations of PCs to consider. Alphabet based languages work on one byte to create a letter, Chinese characters require two bytes each. Although it is possible to move between the two formats on one operating system, it is time consuming and can cause frequent crashes and lost data[33]. Thus the hunt to create new software and better translation facilities continues[34,35].

SINET (Science Information NETwork) was set up in 1989 by the National Center for Science Information Systems of the Ministry of Education (NACSIS) to help facilitate its contact with the US National Science Foundation and use of their databases. This group has been the most successful at getting funding and has managed to fully connect 200 universities to the Internet at Government expense.

WIDE and SINET are part of the Government Inter Ministry Network (IMNET) which was set up to support and carry out research into the Internet and establish a network of Government and related bodies. The research part of the organisation is divided into three parts and 58 research bodies. Some of these are private companies carrying out research on software development and hardware for schools and academia[31].

Future developments

Schools

In 1998 proposals were put to the Government that the Japanese needed more experience with using the Internet[36] – 'in other words, being network literate'[37]. Several ideas were put forward to encourage people to connect, the main one was to offer tax free computers to all homes with children of school age and a flat rate Internet connection fee of $19.95 a month[38].

Originally the Government had stipulated that it intended to have all primary schools online by 2003, but in December of 1998 it was announced that it would be two years ahead of plans. Extra cash, 2.6 billion Yen, is to be made available for local government from April 1999 from the Ministry of Education and the Ministry of Home Affairs. The leap forward is due to:

- the support of communications companies offering discount rates to schools;
- the Ministry of Education's new IT based curriculum starting in 2002[39];

- future teachers being required to have qualifications in information systems, and information retrieval from the Internet when the new curriculum begins[40];

The Ministry of Posts and Telecommunications requested 103.1 billion Yen to help meet this deadline[41].

Universities

The Ministry of Education is promoting more research and information associated subjects, improving software and network facilities so students may use these skills to find work[11]. Universities, however, are not waiting for various ministries to improve facilities. The decline in student numbers has meant they must compete for good applicants. Some of the latest university initiatives are listed below.

- The International University of Japan announced in December 1997 that it intended to change parts of its study structure to make it more competitive. The University, founded in 1982 with help from the Industrial Bank of Japan, already offered all courses in English. It has now made a deal with computer manufacturers who will supply all the students with their own PC, which will be connected to a local area network and have access to the Internet. This would give students 24 hour access to library facilities and online databases[42]. There are also plans to start teaching Chinese (again) and Korean. The thinking behind this is 'It seems ... that China is going to be a major factor in the 21st century'[42].
- In September 1997 Meiji University opened a 23-storey 'intelligent' tower, 'equipped with advanced communications devices. Each student's desk has a socket in which a computer communications cable can be plugged in.'[43] They also plan to hold open classes with other universities using the Internet.
- A 27-storey building is under construction at Hosei University in Tokyo. Due for completion in April 2000, it is to house 'international culture and human environment departments'[43] Eleven computer-related classes are to be offered with compulsory English.
- Rissho University now offers laptops with necessary software to all MBA students for the full four year course. Instruction is also given in Internet use, English and computer literacy[43].
- Miyagi University at Sendai has spent 24 Billion Yen (about 200 million $) on three new buildings, where laptops can be connected in any room to access the school network[44].
- The Ritsumeikan-Asian Pacific University is to open this year (1999) teaching all courses in English and Japanese. The courses offered only relate to Asian studies[44].

Industry

Early last year (1998) CBT Systems announced its new interactive translation software for education. This provides facilities for Lotus Notes in Chinese characters. Currently, it is only for Japanese 'kanji', but CBT recognise that the perfection of this software creates a new market for the other east-Asian countries using Chinese characters[35].

The 'Digital Information Society in the New Century'[45] held a conference in Tokyo from 12-13 May 1999. This focused on software for education. Speakers were invited from around the world and the event was sponsored by the Ministry of Post and Telecommunications, the Ministry of International Trade and Industry, Toshiba Corp, Fujitsu Ltd, Sega and Mitsubishi[45].

The call for cheaper rates for Internet use and computer purchases was taken one step further by computer hardware/software manufacturers who, as well as wanting all these things, requested a 'waiver' of the 5% consumption tax for five years on purchases via the Internet. This group of 18 organisations includes Microsoft, Oracle and Compaq[46].

This year (1999) Nippon Telegraph and Telephone (NTT) released information on new multi-lingual information retrieval software. This work has been carried out in conjunction with Korean Advanced Institute of Science & Technology (KAIST), Singapore's Kent Ridge Digital Labs (KRDL) and Asian Multimedia Forum (AMF- a pan-Asian educational body). This allows students to input queries in their own language, data can be retrieved from the Internet in English, Korean, Japanese or Chinese, and then translated for the user. It is to be fully available from June 1999[6].

Problems

Official documents suggest that the Ministry of Education is placing a great deal of stress on 'Information', the need to improve language skills and computer literacy. They are seen as key to Japan's future success.

'The Ministry of Education, Science and Culture is developing a variety of policies in response to the progressive shift to an information-oriented society. These policies include (1) fostering information literacy, including the ability to obtain desired information from the vast quantities of information available and (2) to use the information efficiently.'[47]

These policies are being implemented in conjunction with various other ministries. While the Ministry of Posts and Telecommunications is establishing 'a fiber-optic communications network linking schools, libraries, and other facilities throughout Japan by the year 2000'[48], the Ministry of International trade and Industry is also trying to promote a plan of Internet use and advanced information technology in education.

However, these Government initiatives are not running as smoothly as it might appear. The Ministry of Post Telecommunications and the Ministry of International Trade and Industry are allocating funds and initiating because it will increase their 'status and influence'[49]. While the Ministry of International Trade and Industry and the Ministry of Post and Telecommunications argues over the terminology of a policy which is 'trade' or 'telecommunications' orientated, the Ministry of Education is not prepared to loose control over educational policies. The result of this is that if a university receives funding from the Ministry of International Trade and Industry, the Ministry of Education will cut funding by that same amount in the next year. The result is a power struggle within the Ministries in the midst of the Government's drive for internationalisation.

Another major obstacle to the success of Government Internet and English language legislation has been the rise of factions who see the excessive use of English as damaging the culture and language of Japan. This movement's main argument is that children are spending more time on 'internationalising' and less time on Japanese literacy and social studies[16]. There is a fear that the consequences of the Internet will be a loss of the local form of communication, and recommendations for the correct use of Japanese have been made[16]. 'With internationalization, the Government should enhance support to scholars who are learning Japanese in Japan or overseas ... [And] not only Government, but also mass media should take care to not use unfamiliar adopted words or foreign words casually.'[16] Movements in South Korea are pointed to, where they are considering teaching more Chinese characters at school. This is due to the increase in trade and tourism from China, but also the knowledge that Chinese characters will help pan-Asian communication in the future[50].

In 1880 in Japan Chinese characters were used in Japan in 90% of text documents, 10% being kana. This fell to its lowest recorded point in 1980 with some texts containing only 25% Chinese characters. The main reason cited for this is not the Internet, but the Government's own legislation that limited the number of characters in current use. Statistics show that the use of Kanji for newspapers has stayed reasonably stable since the 1960's with about 38% of text using this format[51].

Conclusion

The Internet has effected the educational policies of Japan; not just those promoted by the Ministry of Education, but also those of the Ministry of International Trade and Industry, the Ministry of Post and Telecommunications and the Ministry of Foreign Affairs. The private sector, including Nippon Telegraph and Telephone (NTT) and various software and hardware manufacturers, has also responded to Government requests for help in this field.

User demands are not a key consideration when it comes to Japanese Government policies or technological innovations; rather citizens' needs are assessed and what is considered good for the whole country is adopted. It is becoming more of an issue in the consumer market, though, as foreign software companies are using Japan as a tester before they launch in the bigger market of China[52].

However, there is no real evidence that the Internet will detrimentally effect Japanese culture and language; rather the combination of the Internet and English seems to be improving students' grasp of languages and the outside world. The all-embracing way the Internet has been taken up has resulted in developments in software that do not make it necessary to use English. In fact, there is evidence that Japan is trying to use the Internet to move closer to her Asian neighbours, using English for those who do not share Kanji and developing software and increasing language education to communicate with those who have a common written format.

The prospect of losing their cultural identity in 'Cyber-space' does not appear to be close at hand. This may not be the case for other countries, which are closer to English/US cultures[53], but the natural language barrier and a four thousand year old writing system[i], has ensured that Japan, (and other Asian-nations) is finding an accommodating way around this problem.

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Note

[1] Most sources do not agree as to the exact age of Chinese characters. The recognised style used today can be traced back to 3,400 years ago, but the 'picture' format is roughly 6,000 years old. See: Taylor, M. Martin and Insup. *Writing and literacy in Chinese, Korean, and Japanese*. (Amsterdam: John Benjamins, 1998, Introduction and Chapter 21.)

Knowledge management and the EBRD: designing a Knowledge Management Programme for the Office of the Chief Economist

Alfredo Moreno Babiera

Department of Information Science, City University, Northampton Square, London EC1V OHB
Email: Moreno@soi.city.ac.uk

Abstract *It is early days in the life of Knowledge Management (KM) at the European Bank for Reconstruction and Development (EBRD). The Knowledge Management Audit, undertaken during six months of action research at the Office of the Chief Economist (OCE) in 1998, provided the springboard to a knowledge sharing culture. The findings of the audit prompted an urgent need to apply KM initiatives. Accordingly, two knowledge repositories: 'OCE Central Knowledge Store' and 'The Knowledge Tree' were proposed and developed for OCE consideration. Their implementation is a big step forward for leveraging corporate memory at the EBRD. These initiatives are already flourishing and providing valuable knowledge sharing guidance to other departments in the Bank.*

Introduction

For several reasons, many organisations and companies have not, up to now, started to actively manage and evaluate their main assets; that is their intellectual capital. The European Bank for Reconstruction and Development (EBRD) has had sufficient foresight to recognise the importance of knowledge management and the intellectual assets of the Bank. These assets are crucial to this knowledge-intensive organisation, where most workers' labour is intellectual. Intellectual capital is powerful indeed; the reason, according to Dave Snowden[1], is because it appreciates rather than depreciates with use. In the EBRD, and specifically in the Office of the Chief Economist (OCE), there is undoubted evidence of the value of human capital but this needs to be evaluated and fully exploited. There is a need for knowledge management – two words that have been generating a mixture of scepticism and puzzlement for the profession at large[2]. In recent years we have increasingly come under bombardment from an effusive and occasionally vague knowledge management literature. Much of it could be described as a 'good transatlantic talk, with very little content'[3]. There is a lack of genuine, current case studies, which this article hopes to address.

During the research outlined here, a Knowledge Management study was carried out with the objective of designing and implementing a Knowledge Management Programme in the OCE. The findings prompted an urgent need to develop Knowledge Management Initiatives, a selection of the best of which are described and offered for OCE consideration. The primary long-term goal was 'to learn to work smarter and to improve business performance' in the Office of the Chief Economist. The ultimate objective was to provide valuable guidance to other departments in the Bank. Moreover, to encourage them to reflect upon the introduction of a Knowledge Management Programme and a knowledge sharing culture in the 'connected and knowledge economy'[4,5].

Organisation background

Established in 1991, the European Bank for Reconstruction and Development (EBRD) aims to assist the countries of Central and Eastern Europe and the Commonwealth of Independent States (CIS) to develop market economies following the collapse of communism. Based in London, the EBRD is an international institution with 60 shareholders (58 countries, the European Community and the European Investment Bank). To promote this transition towards a market-oriented system, the Bank provides direct financing for private and public sector activities, such as restructuring and privatisation as well as funding for the infrastructure that supports these activities. The Office of the Chief Economist is central to the design and development of EBRD´s strategies. Strategic issues include project work, which comprises economic analysis and transition impact. Since 1995 the OCE also comprises the Business Information Centre (BIC) which supplies library and information services to the entire Bank, including its 28 offices in Eastern Europe. The Centre plays an important role in the use and the provision of financial, political and economic information to the OCE.

Methodology

There are not many recognised approaches to the study of knowledge management and knowledge sharing. And the approach tends to change according to the nature of the organisation and other internal/external factors. In the case of the EBRD it was decided to employ a mixture of methods: a comprehensive literature review, on-going observation, semi-structured interviews, data analysis and a period of action research that spanned the six months from June to November 1998. The literature review identified contrasting theories and current practice in the field of knowledge management, and these were drawn upon to help develop an integrated knowledge management initiative that was proposed for the OCE. Semi-structured interviews/meetings were carried out with 31 staff members of the OCE. The resultant feedback and ideas were then taken into account when developing the Knowledge Management Initiatives that were specifically redesigned and tailored for the OCE needs. This consultation was crucial to the success of the project.

Results and findings

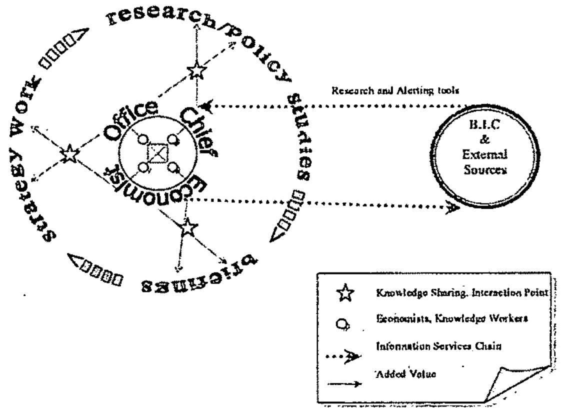
Knowledge creation process – the 'OCE Knowledge Wheel'

The information gathered during the interviews and through additional research provided an analysis of how knowledge is created and shared both within the OCE, and with related external agencies. It also demonstrated which are the influencing factors in the 'OCE Knowledge Wheel' (Figure 1). There is a continuous cycle of situations and tasks, which proceed at a steady and regular pace. At the beginning of the process is the 'chain' driving information and services to the hub. In the context of knowledge management, the BIC's main role as a 'support unit' is to assist in all types of activities that knowledge workers perform. It plays a major role here, for it is the main, regular provider of information to the OCE. The BIC's role is to monitor, enhance and control the quality of the information sources offered to OCE. A variety of online research sources such as Reuters Business Briefing, EconLit, and EIU reports are, among others, made available to OCE staff members at their desks so that they can use them to meet their information needs.

OCE Interns and Junior Economists are heavily involved in the process of gathering and retrieving information on a regular basis. Once information is collected, the Economist 'knowledge workers' add their insights, opinions and judgements. It is human brainpower combined with information that makes the OCE wheel turn and work continuously and successfully. Economists, as knowledge workers, regularly spend time gathering information, synthesising it, and mulling over it. Most importantly, by adding their insights and opinions they increase the value of existing information and transform it into knowledge. Creative thinking always takes place during this process. They are 'adding real value' and consulting with others before delivering a final judgement and producing the OCE outputs. There are three main outputs or 'knowledge packages' with short, medium and long term impact, these are respectively: briefings, strategy work and Research and Policy Studies. These three final outputs are generated on a regular basis during certain periods of the year. By creating 'new' knowledge and advising on what they know best, the OCE helps the EBRD to meet its objectives and aims.

There is a very important requirement to keep knowledge workers knowledgeable as, plainly, they play a crucial role in knowledge-based organisations. As Peter Drucker noted[6], 'in the knowledge society the most probable assumption for organizations is that they need

Figure 1. The 'OCE Knowledge Wheel'.


research/policy studies
briefings
strategy work
Office Chief Economist
Research and Alerting tools
B.I.C & External Sources
Knowledge Sharing. Interaction Point
Economists, Knowledge Workers
Information Services Chain
Added Value

knowledge workers far more than knowledge workers need them'. The BIC plays a major role here by providing alerting services that are intended to satisfy this need. The alerting services favoured by the OCE are FT News Alert, Dow Jones CustomClips, HILFE, and Oxford Analytica. In theory interdepartmental and external consultation with other organisations should be taken into account in the process of knowledge creation. It was found, however, that this consultation does not take place on a regular basis.

The information chain: access and delivery of information

The main method used for transmitting information and services from the BIC through the chain are electronic systems, mainly email, CD-ROM systems and the Intranet, though hard copy outputs, such as faxes, reports, and magazines are also important. Speed of delivery, currency and accuracy of information were found to be crucial for knowledge workers' needs. The need to have even greater speeds of delivery of relevant information was highlighted. By and large 'knowledge workers' expressed satisfaction with the reliability of information emanating from the BIC and IT department. There was also an urgent need to organise and store information/knowledge centrally, located in a 'common information point'. Another major issue for knowledge workers was to find out what information and sources were available through the chain. In most cases, information is distributed on an individual basis via previous subscription to a distribution list. This limits information access for those who are not currently aware of the different sources and delivery systems and obviously causes a major problem for new members joining the Bank.

Information sources: the Economists' Tool Kit

The suspicion that OCE staff had only modest knowledge levels of available external/internal sources was confirmed. It was also apparent from the outset that some of the interviewees, and in fact all of the Interns, had restricted access to some crucial information sources, for instance the Internet. In an attempt to remedy the situation, a brochure entitled 'Economists' Tool Kit' (ETK) was developed and handed out during all interviews. This brochure, which was well received, contained details of crucial economic information sources. According to OCE staff members, the IMF and World Bank remain the most reliable sources of information for data and statistics. Secondary and complementary information sources are frequently consulted in order to cover their current awareness needs. Figure 2 shows the use of different information sources named in the ETK, before and after the research. It can be seen that their use has increased significantly.

During the KM research, 124 new accesses to crucial information sources for Economists were provided. The number of accesses after the KM Audit increased by 216.6%. Figure 3 shows the usage and access of specific ETK´s Information Sources. It shows that all interviewees now have access to Oxford Analytica, EconLit, HILFE and the Internet. Access to the CD-ROM system was also considered to be crucial by most of interviewees.

Interviewees were not aware of all sources, especially the alerting services that use push technology, such as Dow Jones CustomClips. (Note FT New Alert has been withdrawn now.) Internet official sources from governments and related organisations from EBRD´s countries of operations were singled out as being especially important by interviewees.

Information management skills

The interviews and observation in the OCE proved to be invaluable in providing data regarding the staff's information management skills. Information retrieval skills were found to be satisfactory. However, these skills could be significantly improved by the provision of training in the use of different information sources and online databases. Organising information once collected was also found to be a problem. A major challenge in the OCE is the creation and maintenance of a macroeconomic database in which almost all Economists are involved. The homogeneity of data collected from different sources and different knowledge workers is a particular concern.

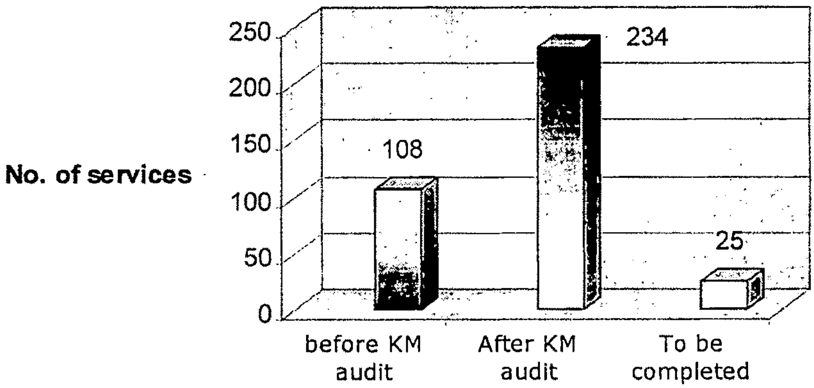
The Interns and new members

The Interns' main tasks are collecting data and information from primary and secondary sources and processing it in the form of databases, graphics etc. It could be said that most of the time they are performing their task as 'support staff' instead of 'knowledge workers'. Thus, their skills as economists are not always being fully exploited. New members and Interns mentioned that major support at the beginning of their careers from BIC and OCE staff would be very much appreciated.

Consultation and knowledge sharing

It was apparent from the outset that peer consultation was taking place, however it was felt that it could have been occurring more frequently. The interviews confirmed that during extended creative periods, a knowledge sharing culture should be encouraged. Knowledge sharing usually takes place via the production of end products or during face-to-face meet-

Figure 2. Total access and usage of information sources.



The data was correct as at 28 September 1998.
Please note that seven more accesses to Internet for OCE interns were achieved during interviews but they are not included, as they are not directly provided by the BIC.

ings. Interdepartmental consultation does take place regularly; however, there is modest ongoing consultation with peers or peer groups. This suggests that knowledge workers are normally adding value individually but not as a group. There are obviously some exceptions. Duplication of effort is the most direct consequence of this humble communication and information sharing between OCE members and Interns or new members. Trust, technology and ownership, were found to be the major influencing factors for knowledge sharing. It could be argued that the introduction of a new technology, such as groupware, which allows virtual meetings and conferencing, would contribute to knowledge sharing.

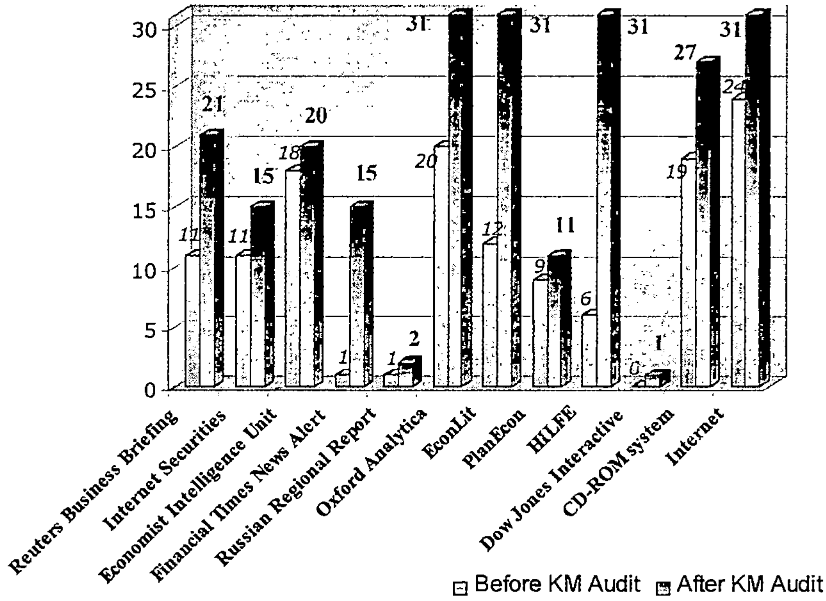
Impediments to knowledge transfer and sharing

Not surprisingly, time pressure was found to be the biggest barrier to knowledge sharing in the OCE. However, different cultures and organisational structures also act as an impediment to knowledge sharing. Despite information/communication technology restraints and the lack of a standardised process for knowledge transfer, the biggest challenge for knowledge sharing and knowledge management is a cultural one. It could be argued that OCE employees are, in common with most employees, competitive by nature and may be more inclined to hoard rather than share the knowledge they have. The lack of motivation and an incentive or reward system, is also an issue that needs to be taken into consideration.

Knowledge management initiatives

Approaches to knowledge management vary from company to company. In terms of knowledge management tools, 'technologies, which enhance and enable knowledge generation, codification, and transfer'[7], all approaches do make use of technology such as desktop videoconferencing, interactive Intranets and a

Figure 3. Access and usage of individual information sources.



The data is correct at 28 September 1998.

combination of document management and workflow management[8]. Current publications[9,10] show that the race for developing tools has just started as the number of organisations implementing KM Tools as part of their knowledge management strategy has greatly increased. For instance, a KPMG KM survey in 1998[11] shows that 43% of respondents considered their organisations to have a knowledge management initiative in place.

The knowledge management initiatives that were presented and assessed by OCE staff during interviews were of two main types. The first, the 'OCE Central Knowledge Store', exploits the knowledge that is already held within the department. The second, 'Knowledge Tree', seeks to apply the knowledge and experience of members of the OCE to external and internal information sources to give them added value. Both initiatives use Lotus Notes© as the delivery vehicle.

OCE Central Knowledge Store

This information and knowledge repository has been subdivided in two main areas: the *Expertize map* or *Database of Heads* and the *OCE On Line Database*, with additional links to the *Information Sources* and retrieval tools – 'The Economists' Tool Kit' and 'BIC Catalogue'. The main features are the employment of a search engine, and the possibility to download existing documents in the databases.

Expertize map

'If OCE knew what OCE knows ...'[12]. Within the OCE there is a wealth of knowledge and expertise that could be exploited to a greater extent. The *Database of Heads* (DoH), also called *'Map of Expertise'*, is a guide to human knowledge resources within the department, using a web browser as an interface to a relational database. The 'knowledge map' provides a list of competencies, and who knows what and who knows whom. There are four access points, all of which can lead via hyperlinks to the same information:

1. A listing of all OCE staff by name gives details of staff and the personal page they helped to write.
2. The thumbnail allows access to the same information even if only a face is known.
3. The floor plan shows where to go for the information. It shows where colleagues sit.
4. The staff assignments allows a subject approach to finding those who may have valuable and relevant information.

Maps of expertise like this have been implemented in many other companies. Similar projects are: the 'Network of Experts' by Hewlett-Packard, Hoffmann-Laroche's 'Yellow Pages'[13], the 'Monsanto's Guide', the 'Yellow Pages' from BP, or the 'Green Book' from NatWest Markets. In the EBRD's case, members will own the content of their individual web pages having complete control of its contents. Surveys show that most companies believe that creating in-house Yellow Pages can be a great way to improve the way of managing knowledge[14].

OCE Online Databases

Much of the knowledge and expertise held in the OCE has already been committed to paper but the audit revealed a need for this to be centralised and organised. This has been achieved with *online databases*. The Economists' reports have been compiled into a database and access to it tailored to the users' needs and advice. The databases can be viewed by date, by country, by author or by type, which makes browsing very simple. A brief abstract is given to help with the identification of useful reports and a search can be made for terms contained within the abstracts of a particular database. The full text of reports can then be accessed online. Sensitive reports can be protected by password at report level or at database level.

The Knowledge Tree

The Knowledge Tree is a knowledge-sharing tool, Lotus Notes© based, which is designed to assist OCE to realise the potential gains from the application of knowledge management strategies. It aims to be an OCE knowledge repository, as well as a means to virtual knowledge conferencing. The product is able to collect information from a wide variety of sources. By cataloguing this information and referencing it against the stored knowledge requirements of OCE staff members, the system will automatically deliver relevant material in a ranked order of importance. To facilitate knowledge creation, The Knowledge Tree supports multi-threaded discussions as well as enabling analysis and summaries to be constructed for use as source material by others within the organisation.

The main characteristics that could make it a powerful and appropriate knowledge tool for OCE are:

- OCE staff can define their knowledge requirements once, eliminating the need to continually construct complicated search strings to find relevant information.
- Material can be automatically extracted from a wide range of sources and can be catalogued using organisation and/or individual definitions. For instance the 'OCE Central Knowledge Store'.
- Material is also ranked, based upon relevance to OCE needs, to ensure important material is not missed. This information can be shared across the organisation.
- Information and knowledge is held in a central repository until needed.
- Comments can be added and these comments then become part of the organisations' intellectual capital for later use and for the use of peers. The comments and documents can be easily printed, or sent to others via fax or email.
- Material is constantly re-valued based upon the level of usage, number of comments made, and user ratings.
- Documents can be linked electronically making it easier to navigate around the information held.
- Usage statistics are gathered to support an adaptive learning system. This is designed to ensure The Knowledge Tree continually improves as it develops an understanding of each individual's knowledge requirements.

The new Version 2, which includes some extra features such as online chat, newsletter and alert services, global searching (Internet, file stores, Lotus Notes© databases, OCE Central Knowledge Store.) and language translation will be tested by OCE staff.

The coming KM Programme should adopt a strategy towards knowledge measuring tools. There are already some pioneers in this field[15]. Probably the best known is Skandia's Navigator and its associated Value Creation Model. Others are BBS (Balanced Business Scorecard which includes indicators of intellectual capital), Intangible Assets Monitor of Karl Erik Sveiby, The IC-Index™ Associated, Inclusive Valuation Methodology (IVM™) developed by Philip M. Pherson from City University.

It seems obvious then, that electronic mail, corporate intranets and groupware are largely seen as effective in creating a knowledge-based organisation, as shown by an Ernst & Young survey in 1996[16]. Lotus Notes© based tools are, on the whole, driving the whole business with Microsoft executives confessing that the company had no solid knowledge management strategy in place[17]. However, technology is a necessary 'but not sufficient enabler of knowledge management'[18]. The different range of strategies, from 'Project Concert' from Zeneca to 'Virtual Best Practice' from Nortel are good examples of KM initiatives and best practices that we can learn from. These best practices could be also applied inside each particular company or organisation. One very good example is 'Fords Best Practice Replication' produced by Dale McKeehan in March 1995[19]. Two more examples are the Buckman's knowledge-sharing system known as 'K'Netix', that is used by all 1,200 employees in 80 countries[20], and 'FoxTrex' by law firm Phillips Fox, which won the international award (the Giga Excellence Award for Innovation) in October 1998[21].

Recommendations and conclusions

It is said of the Internet that 'it's early days, but there are some surprises'[22]. The same could be said about knowledge management. Plainly most of the initiatives are still in the pipeline and we wait to learn of their reception and progress. In the case of the EBRD the introduction of a KM Programme will be a big step forward, however progress will – and should be – on a small scale. Accordingly, investment in time, human resources and capital should also be introduced progressively. It is important to clarify that these programs should not involve massive organisational investment (and disruption). Contrary to that which most experts' recommend[23] in the case of the EBRD a Chief Knowledge Officer or Knowledge Manager should not be appointed. The title of CKO 'only helps keep the political bureaucracy growing'[24], something which is detrimental to the successful creation of a knowledge-based organisation.

Changing the current culture and people's behaviour in favour of a greater knowledge sharing is a difficult task to achieve and this will be one of the major challenges in the EBRD too. As Maholtra said[25], 'unless people are willing to share, no knowledge sharing will occur regardless of the technology capability'. To overcome these problems the creation and development of a reward and incentive system is recommended, which should promote and encourage knowledge sharing and the use of knowledge tools. Motivating workers to share and use knowledge should be a priority 'because knowledge is considered power and knowledge creation is difficult work, people are reluctant to share it without recompense'[26]. Another big challenge will be to open managers' minds to the change. Senior management support is one of the most important factors in the success or otherwise of knowledge management projects. Training will be extremely important in the early stages. Employees will not contribute to a central knowledge repository such as 'the OCE Central Knowledge Store' or the 'Knowledge Tree' without training, guidance and prompting. The use of an easy common network/knowledge language is necessary. Thus, the creation of an easy and comprehensive 'Knowledge/Network Glossary' is recommended.

Special support should be provided for the Interns and new OCE members. An induction programme is required. Access to information sources and services, as well as assessing if information needs are satisfied should be monitored more frequently. Measuring the impact of the Knowledge Management Initiatives proposed will be crucial for later evaluation of the success or failure of the programme. Regarding information sources, it is very important to automatically give Internet access to new Interns/members.

The research and the Knowledge Management study proved how OCE and the EBRD could benefit from sharing knowledge and leveraging corporate memory. The KM tools could improve connectivity and efficiency within the OCE and between other departments in the EBRD, as well as with external organisations. The solution to existing problems is not to work harder but, as many gurus and professionals would say, 'to learn to work smarter'[27].

The presentation of the developed initiatives has already provided valuable guidance to other departments in the Bank and encouraged them to reflect upon their introduction. Efforts in different departments in the EBRD are underway. However, it will take time and research before it can be claimed that this has been fully achieved, although the indications are that this is very likely to happen. The main problem with knowledge management programs – 'disconnected efforts and multiple projects with little co-ordination'[28] – should not be forgotten. The EBRD is still running on time to avoid this.

It is obvious, that organisations around the world are becoming more and more dependent on their intellectual assets for their continued survival. The cost of ignoring human capital is very high nowadays. When individuals leave the company, their knowledge is lost to the organisation. 'Individual talent is great, but it walks out the door.'[29]

The published literature shows that knowledge management does not come cheap. Developing and implementing initiatives to support knowledge management activities can prove very costly. However, as Davenport suggests[30], 'the cost of not knowing' should also be considered. Sharing and the usage of knowledge should not be taken for granted. The installation of Lotus Notes© alone will not lead to widespread sharing. Neither will making information sources available through 'OCE Central Knowledge Store' necessarily lead to their use. Adair Turner, Director General for the Confederation of British Industry, put his finger on it when he said 'Knowledge Management is big business'[31]. Indeed, there is a good deal of vested interest in pushing the new business/information trend to make it happen regardless, a classic case of 'the tail wags the dog'. Streatfield and Wilson point out the legacy: 'too-easy synthesis' and 'over-simplification' leads to the perception that KM is nothing more than a 'consultancy fashion'[32].

The biggest surprise for the researcher was discovering that crucial staff, employed as 'knowledge workers' did not actually have direct access to most of the information sources, including the obviously strategic Internet. Identifying the objectives and aims of the Knowledge Management Programme and tying knowledge sharing to specific business goals is plainly necessary and highly recommended. Surprisingly, however, none of this has been accomplished yet. It is too early to determine whether EBRD's attempts to mount a Knowledge Management Programme will be wholly achieved or whether, as with many other organisations, implementation will be slow due to the reluctance to change and the problem of internal politics that beset many other organisations.

The persuasiveness of the knowledge movement is a fact, so too is the cliché 'knowledge is power'[33]. Whatever it is being called, in terms of learning, intellectual capital, knowledge assets, intelligence, know-how, insight or wisdom, the bottom line surely is 'manage it better or perish'[34]. Accordingly, if the suggested recommendations are implemented, the EBRD and OCE will reap enormous benefit from the introduction of a Knowledge Management Programme and a knowledge sharing culture in this 'Knowledge-Based Economy'[35].

Knowledge management programmes and the implementation of the associated initiatives can prove to be very complex. The problem is that 'creating and implementing a method for systematically measuring and recording human knowledge assets'[36] becomes difficult when the multifarious needs of all interested parties' have to be satisfied. It is patently not true that KM is based on common sense as some commentators suggest[23]. What is common sense is knowledge sharing itself, which relies heavily on intellectual assets. The EBRD approaches knowledge management as a work in progress. The early adopters make the point that 'it's best to experiment, stay flexible and make changes on the fly'[37]. Undoubtedly, the Knowledge Management research provided a big step forward for the introduction of a knowledge sharing culture at the EBRD.

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Library evaluation: some options for academic libraries

A. A. Alemna
Department of Library and Archival Studies, University of Ghana, Legon.
Email: balmo@libr.ug.edu.gh

Abstract *This paper provides a review of various types and levels of library evaluation. It attempts to stimulate a debate on the pros and cons of these methods of evaluation in order to provide options for academic libraries, especially those in Ghana. Other issues discussed in the paper include concepts in library evaluation, criteria for evaluation, and problems in evaluation. The writer concludes that despite the acknowledged importance of evaluation, accounts of actual library evaluations are few.*

Introduction

The ultimate aim of all management principles, methods and techniques is to help attain the objectives of the organisation efficiently, effectively, economically, and in time. It is evaluation that testifies whether the objectives are achieved and if so, to what extent. Evaluation also includes accountability to the funding authorities, the patrons and other stakeholders as to whether the resources spent have resulted in the attainment of the desired objectives.

Evaluation is basically a judgement of worth. Thus, it means assessing the worth or value of the unit to the people for whom it is meant. It is the assessing of performance against users' expectations. It could also be interpreted in the narrower sense of whether the output is commensurate with the input. In the context of a system, it means the degree of usefulness of the set-up in meeting various objectives the system has to achieve. By and large, evaluation means testing the service or system for effectiveness and efficiency[1].

Library evaluation

Lancaster[2] has prescribed three possible levels of library evaluation. These include the measurement of effectiveness, cost-effectiveness and cost-benefit.

Similarly, Vickery and Vickery[3] have provided a useful framework for assessing performance in reaching objectives. These include the effectiveness of a system, the economic efficiency of a system and the value of a system. By effectiveness, they mean the degree to which it minimises costs in achieving an objective. The combination of the two results in cost-effectiveness. According to Vickery, value is the degree to which a system contributes to user needs, and where it is expressed in monetary terms and compared with cost, it becomes a cost-benefit analysis.

A look at the latter's framework shows that it is not different from what Lancaster has prescribed, and therefore they fit well into Lancaster's effectiveness, cost-effectiveness and cost-benefit analysis, respectively.

According to Lancaster, a library's effectiveness is measured in terms of how well a service satisfies the demands placed upon it by its users. Saracevic *et al.* consider it to be how well a library does what it is intended[4]. Ralli on the other hand argues that 'effectiveness essentially measures how we are going, to what extent we are meeting our goals and objectives'[5].

A system's cost-effectiveness is concerned with its internal operating efficiency. It measures how efficiently in terms of costs, the system satisfies its objectives. A cost-benefit evaluation on the other hand, is a measurement of the value of a service to ascertain whether the service is worth more or less than the cost of providing it. It thus creates a basis to justify the provision of the service.

Moore[6] concedes that there is a considerable confusion that surrounds the various forms of measurement, particularly the terminology used to describe them. According to him, there are three levels at which one can evaluate a library. These are the measurement of efficiency, performance and effectiveness.

The former is concerned with how well the library performs. It is a consideration of how a library could utilise fewer resources to achieve the same level of service. It is therefore a measure of cost-effectiveness, which is itself an assessment of the impact which a service has on its users, or an examination of how it is fulfilling or satisfying the needs of its user community.

It is clear from the foregoing discussion that the user is at the centre of all these measures of evaluation. Be it cost-effective evaluation or cost-benefit evaluation, evaluation of effectiveness, efficiency or performance – all end up finding ways of better serving the library user, and this is the satisfaction of the demands he places upon the library.

Methods of evaluation

As it stands now, there are two main methods for the evaluation of a library's effectiveness or the measurement of its performance. These are the subjective and the objective methods.

The subjective method or approach primarily depends on users' opinions or attitudes to measure the effectiveness of a library. Normally, such opinions or attitudes are ascertained by methods used in marketing research, which are basically the use of questionnaire or interviews or both. As a result, the subjective approach takes the user as the unit of analysis. The assumption here is that these user evaluations are valid indicators of library performance. This view, however, lacks consensus. There are two powerful schools of thought representing the pros and cons.

Arguing for the cons, Stecher contends that users are not competent to give valid evaluations of library services. He argues powerfully that: 'it seems doubtful, to say the least, that results from subjective satisfaction measures could be taken seriously'[7].

Lancaster and others share the opposite opinion. They argue for the necessity of soliciting these user evaluations for a host of reasons. They contend that some demands for materials are either too complex or too ambiguous to cope with the constraints of the objective measures, which tend to be predicated upon demands for specific items. Secondly, some of the services that people use do not have objective measures of performance. In such a case, it is imperative that the user, as the ultimate user of these services, becomes the most qualified person to evaluate the performance or effectiveness of such services.

These potent arguments bring the subjective approach to the fore as a useful complement in evaluating library performance. It is therefore effective and most important once its methodological application is sound and scientific. Stecher, one of the most ardent critics of the subjective approach, corroborates this. He argues that 'subjective satisfaction as expressed and tested in more realistic form of user preferences, has in fact found methodological application in a number of studies'[8].

It is therefore safe to conclude at this point, that, in determining the degree of success with which a library performs, the ultimate authority, the library user, is the most logical source of an answer. This is well noted by Vickery and Vickery that, 'in the social process of information transfer ... the ultimate evaluation must be from the viewpoint of the potential recipients'[9]. User opinions therefore, remain a valid and potent measure of user satisfaction.

Performance measurement of a library, and in this context the evaluation of a library's effectiveness in the services it renders can also be accomplished quantitatively. With this approach, performance measurements of a library adopt the tools of the management sciences. In fact, it is an integral part of the management process.

As its wide and extensive use testifies, it is now accepted as an answer for the numerous problems and shortcomings of the traditional measures.

For a complete and objective evaluation of a library's effectiveness, three important things need to be done.

1. Specification of a purpose or goal of the system and of the parts studied.
2. Selection of a measure or measures reflecting this purpose and specification o

the units of measure.

3. Specification or construction of measuring instruments and the implementation of a measuring method.

At this point, one may conclude that the major criteria by which to evaluate the effectiveness of a library's services is the degree to which it maximises either accessibility or exposure or both. This is true because it is in an attempt to satisfy these objectives that each library provides physical facilities for study; provides books and related materials for study, teaching and research; provides information needed and demanded by readers; and provides core and auxiliary reader services.

What is to be measured?

This is a fundamental problem akin to all processes of library evaluation. But the problem becomes exacerbated in the measurement of effectiveness. The reason is that the measurement of effectiveness is a complex issue, particularly for social systems of which the library is one. There is a great diversity of approaches, methods and techniques that present a bewildering and confusing picture, all because 'as yet, there are no universally accepted measures, measuring units, or methods for the study of library effectiveness. In part, this is because there is little agreement as to what is to be measured'[4]. It is even doubtful if consensus would be reached about measures which have the most utility and internal validity.

According to Orr, quality and value are measurable both directly and indirectly:

> 'Measures of quality and value may be characterised as direct when they are based on these ultimate criteria, and indirect when some presumably related criterion is substituted as the basis for judgement.'[10]

In fact, the ideal situation, as explained by Stecher[7], would be one in which measures are used for measuring these ultimate criteria. In practice, however, it has proved difficult if not impossible. Invariably, this implies that one would have to find things, processes, and phenomena, which are measurable, and where the measures derived would be valid indicators of effectiveness and benefits.

Concepts in library evaluation

In broad terms, the following approaches may be used for library evaluation.

1. Library input

The level of library input in terms of facilities, organised services, buildings and other resources is taken as a measure of performance. The input data is used as the principal means of comparing the services with those rendered by other libraries and seeking more money. The assumption is that the effectiveness of a library is directly proportional to the resources utilised. Library standards and statistics are taken to indicate the effectiveness and efficiency of the library.

2. The relationship between the pursuit of organisational goals and the required tasks of individuals

This approach assumes that the efficient use of a library's personnel resources results in maximising of library performance. Motivational forces, managerial style and other behavioural approaches are considered to maximise the efficiency of staff.

3. Library's interaction with users

The sum of all encounters the user has with the library, including what is and what is not done for the user, is taken as effectiveness of a library (user studies).

4. Impact on society as a whole and its relation to the outcome of library service

Successful interaction between the library and its environment indicates the measure of effectiveness.

Criteria for evaluation

From what has been reviewed so far, it may be summarised that the performance of a library is evaluated primarily in terms of effectiveness and efficiency. Evaluation is also thought of, as weighing the goodness of results of a library service against the resources required.

As a summary, therefore, the criteria for library evaluation may be broken down into the following.

1. Effectiveness

This is a measure of how well the service satisfies the demands placed upon it by its users. It can be subjective (based on opinions of users), objective (success measured in quantitative terms) or a combination of the two.

2. Efficiency
This is a measure of cost minimisation in attaining objectives, which is determined as a ratio of output to input.

3. Cost
This is the monetary value of the resources expended to provide a service or a product.

4. Cost-effectiveness
This is a measure of how efficiently the system satisfies its objectives in terms of cost.

5. Benefit
This is the gain accruing to the individual or the organisation or the society at large from the use of the library.

6. Time saved
This refers to the time that the user of a library service saves.

7. Satisfaction
User satisfaction and dissatisfaction with a library service are related to the attitude and behaviour of the user toward the library services and collection.

8. Cost-benefit evaluation
This involves determining how far the value/worth of a library service is justified in terms of the cost.

Problems in library evaluation

The following are some of the problems to be expected in library evaluation.

1. Lack of a generally acceptable definition of performance evaluation and criteria of evaluation. Libraries being non-profit organisations, monetary yardsticks do not hold good.
2. The effects of library services are often not visible. They are indirect and subjective. The beneficiary of the service is the sole judge of its utility and effectiveness.
3. The difficulties in developing reliable, objective, and empirical tools and methods of measuring performance.
4. The problems involved in translating the desired goals into utilities and perceptional differences among the patrons, staff and promoters as to the quality, depth and relevance of services to be provided.

Conclusion

It may be pertinent to state that in spite of the importance of evaluation for funding agencies and the managers of libraries, accounts of actual evaluations made of libraries or information services are very few, despite the theoretical expositions. Whatever the method of evaluation adopted it is likely be influenced by the type of library and the area of service required for evaluation.

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